

AMERICAN FRUIT GROWER

Vol. XL
No. 5



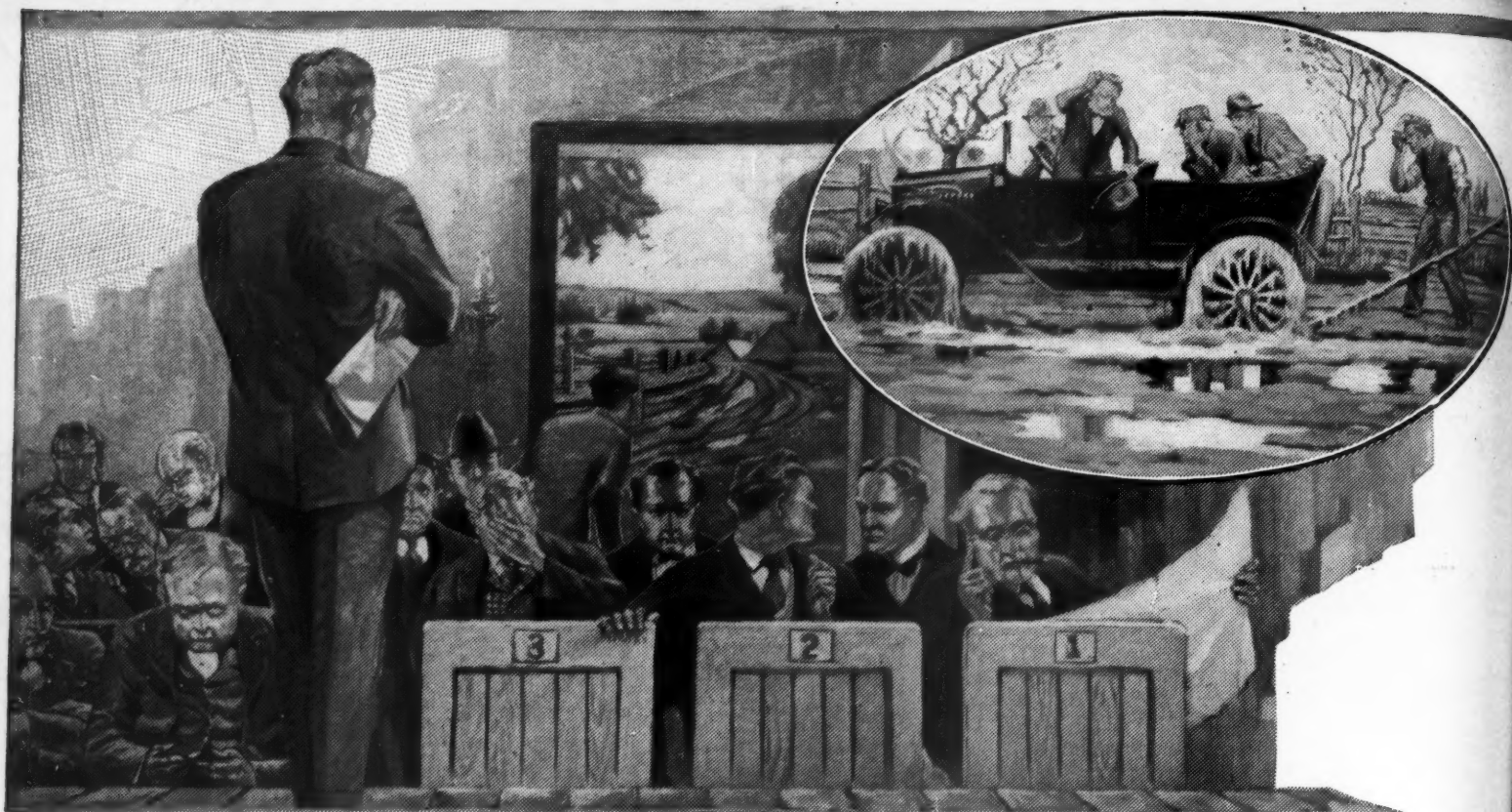
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May
1920

Edited by Samuel Adams

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Why the County Commissioners failed to reach the "Good Roads" meeting—

THIS is the story of a Good Roads Meeting that *didn't meet!*

The meeting was called to order at 3 P. M. All the nearby farmers and townsfolk were there to hear a good roads expert tell the County Commissioners how to improve road conditions.

By 5:15 P. M. the Commissioners *had not shown up*. So the meeting adjourned.

Next day the secret leaked out—

Road Commissioner Johnson's car had stuck fast in a mudhole just off the state road and had to be hauled out.

Commissioner Higgins had got ditched.

Commissioner West never left his house. He knew only too well what he would be up against.

At the *next* meeting the Commissioners were on time and adopted a real Good Roads program.

WOULDN'T you like roads that are good *every day in the year?* Then you would never have to say "I'd go if the roads were good."

Tarvia roads are all-weather roads. They stand up under fall rains, winter frosts or spring thaws.

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What Is Tarvia?

Tarvia is a coal-tar preparation for use in constructing new macadam roads or repairing old ones. It reinforces the road surface and makes it not only dustless and mudless but also waterproof, frostproof and automobile-proof.

Tarvia roads save money because the cost of maintenance and repairs is very light.

Special Service Department

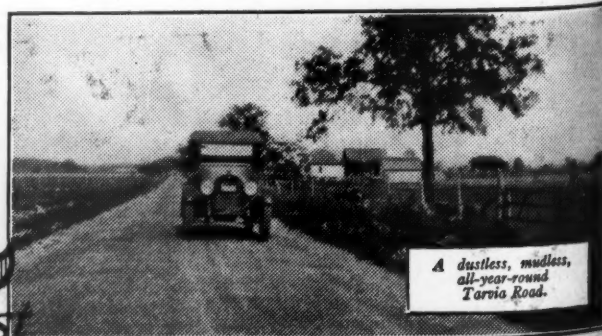
IN order to bring the facts before taxpayers as well as road authorities, The Barrett Company has organized a Special Service Department, which keeps up to the minute on all road problems.

If you will write to the nearest office regarding road conditions or problems in your vicinity, the matter will have the prompt attention of experienced engineers. This service is free for the asking. If you want *better roads and lower taxes*, this Department can greatly assist you.

Write for booklets and further information.

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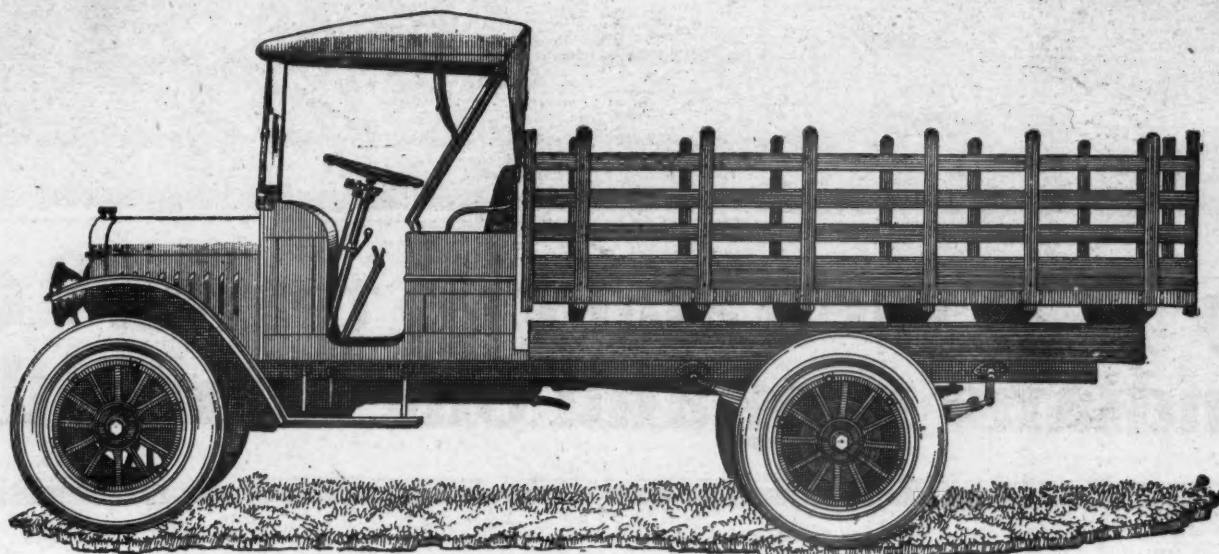
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**A transportation investment
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ENGINE—Four cylinders cast en bloc with Hot Spot and Ram's-horn intake manifold; cone clutch running in oil; transmission bolted to engine; bore, 3⅝ inches; stroke, 4½ inches.

GASOLINE SUPPLY—Capacity 10½ gallons; positive feed.

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STEERING—Left side drive; 18-inch steering wheel; irreversible worm steering gear, adjustable.

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WHEELBASE—124 inches.

TIRES—35 inches by 5 inches pneumatic cord.

REAR AXLES—Worm drive; semi-floating type; extra heavy malleable iron housing.

FRONT AXLE—Heavy drop-forged steel I-beam.

SPRINGS—Front, 38 inches long, 2¼ inches wide; rear, 52 inches long, 2¼ inches wide; both semi-elliptic.

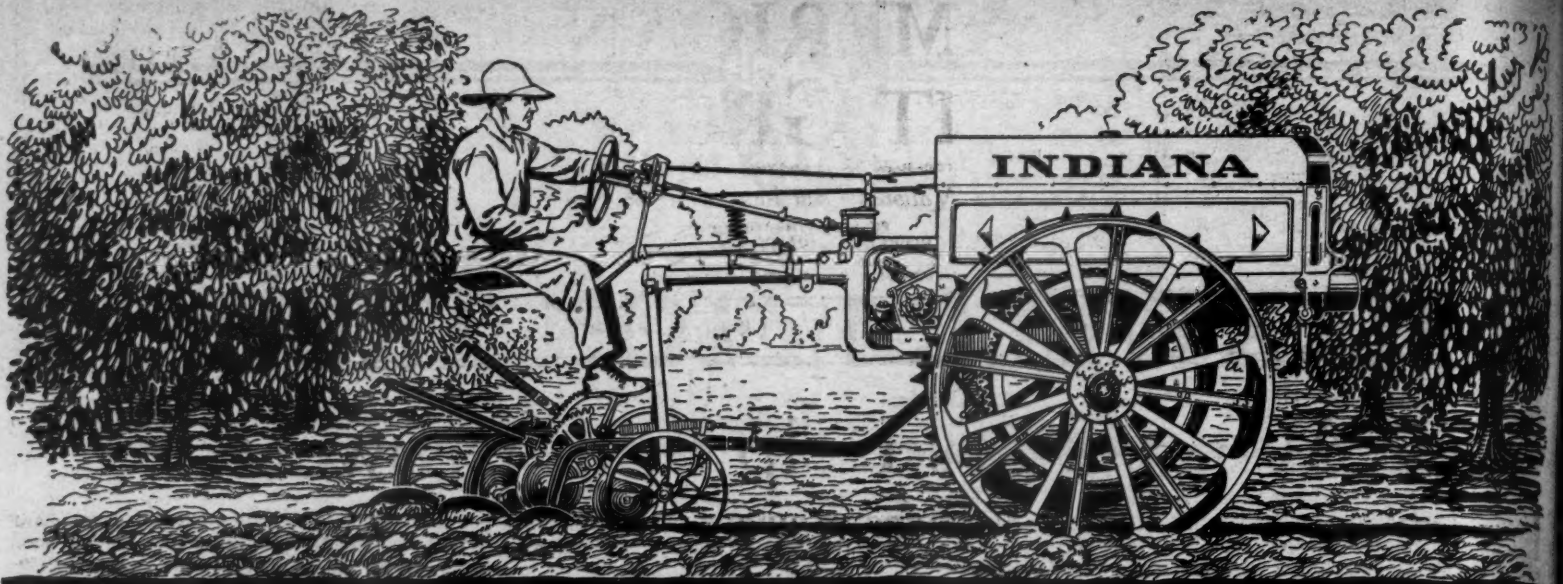
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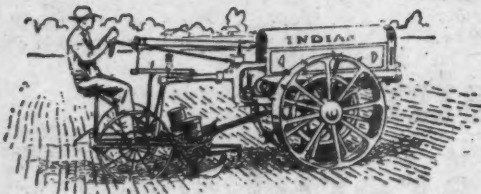
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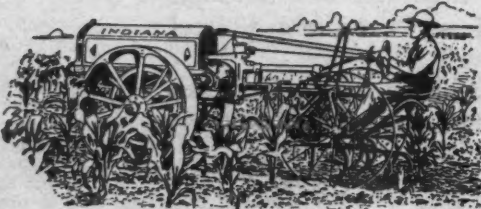
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In the Wheat Field



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ON MOST farms one team is all you can use the year around. Extra horses work only during the crop year of 90 to 100 days. The rest of the season you are working for them.

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Automobiles Help Fruit Growers

By Richard Powers, Missouri

LIKE most men, I sometimes glance at the woman's page of the magazines when I think my wife isn't looking. Crocheted edging does not hold my attention for any prolonged time, but when I saw in my February AMERICAN FRUIT GROWER, the suggestion that the women's clubs in rural communities should hold a sort of experience meeting on what profit and pleasure had been lost through a period of time on account of bad roads, I was at once interested, for transportation is a hobby with me. So it occurred to me to hold a little experience meeting of my own on the necessity of easy and constant transportation in rural communities.

I'm heartily in favor of every community doing what it can to improve all of its roads, both dirt and macadam, and one of the most effective means of securing good roads is to introduce as many automobiles as possible into the neighborhood. All of us know that where automobiles are, there good roads come. Some put it the other way around and suggest that the good roads come first. Personally, I believe that the supply of good roads follows upon the insistent demand from automobilists, but whether the chicken or the egg takes precedence is unimportant, they are found together now.

Modern inventions have so diminished distance, that the horse team can no longer meet the requirements of the enlarged radius in which we conduct our business and social life. I can remember the time when the old dirt road was our sole dependence. It was strictly a fair weather friend. When rain fell, when frost ridged the gullies to stone, when the thaw set in and the bottom dropped out of the mud holes, that old road heard language, even from pious men, that would bring blood to the cheek of a turnip. But when our fruit growers began to use automobiles, good roads followed almost automatically.

gatherings were an effort so long as going anywhere meant taking the horses from the plow or spray wagon. I seldom went to fruit growers' meetings and never could join those agreeable and instructive expeditions where a number of fruit growers unite in making an automobile tour, sometimes lasting a week, when visits are made to orchards in different sections.

Benefits of Owning a Car

Some of the most valuable fruit lessons I have learned have been taught through wide interchange of personal experience, and it is not too much to say that my home is both more prosperous and happier for the possession of a car. I like meeting not only my near neighbors but men from elsewhere who have something new to tell me, and how my wife does enjoy the more frequent and broader intercourse! I suppose it is true that busy outdoor men too often forget that the kitchen and dooryard cannot satisfy a woman's social craving. I've heard it said that the general introduction of automobiles and telephones into rural communities, has marked a pronounced decrease of insanity among farm women. The theory is that the loneliness used to get them.

I don't know how that may be, I never saw any signs of tottering reason in Mrs. Richard Powers, but I know she must have been almighty lonesome many times. When she began to get about more and was able to take an active part in community life and effort, she brightened amazingly. Her health improved as the result of more relaxation in the open air. We now frequently attend lec-

tures in town, a special church service, fairs, an occasional show. It may not make any difference in our feeling toward each other, but it certainly gives us more interests in common. We have much to talk of together. We are better companions now.

One of the most popular diversions in this neighborhood, is the weekly band concert held in our nearest town. We are proud of these concerts, for we know it is not every town of this size that can furnish music of such high quality. The performers are mostly townspeople, but a good many are drawn from adjacent farms. Saturday evenings, when the summer twilight lingers late, farm families from far and near flock in to hear the music and see the crowds.

And there surely are crowds. Last summer we drove in one week as usual, bringing with us an old friend from an eastern city. During some time after we reached the big square, he was unusually quiet, then he burst out. "Say, Dick, I wish you'd tell me where all these people come from. I've seen nothing but a long string of automobiles come down the pike ever since we got here."

I proposed that we take a turn round the square and see what we could find out about it. "I've a mind to count the cars," he said, and count them he did until he tired after reaching 600. It was like a family party to me for I knew the majority of these cars as belonging to farmers on all sides of me. Pretty nifty some of them were, too. The excellent, reliable but, formerly, too monopolistic flivver did not have it all its own way by any

means. Though many of our fruit farmers own one, it is often used chiefly as a utility car and on an occasion like a band concert, it was not in overwhelming evidence.

My friend was surprised and mildly excited. "Why, just consider," he said, "what that means. These 600 cars brought on an average of five people each. I had no idea farmers amused themselves in this way." "There are a good many things you don't know about farmers and farming," I told him. "City people still think of us as up before light, hitching the team to the plow, and dropping asleep on our way to bed, worn out with the toil of the day. We still work hard and get through a darn sight more than we used to when we had no power on the farm, but we're riding on rubber now and combine some pleasure with our business." "I'll say you do," was his somewhat jazzy reply.

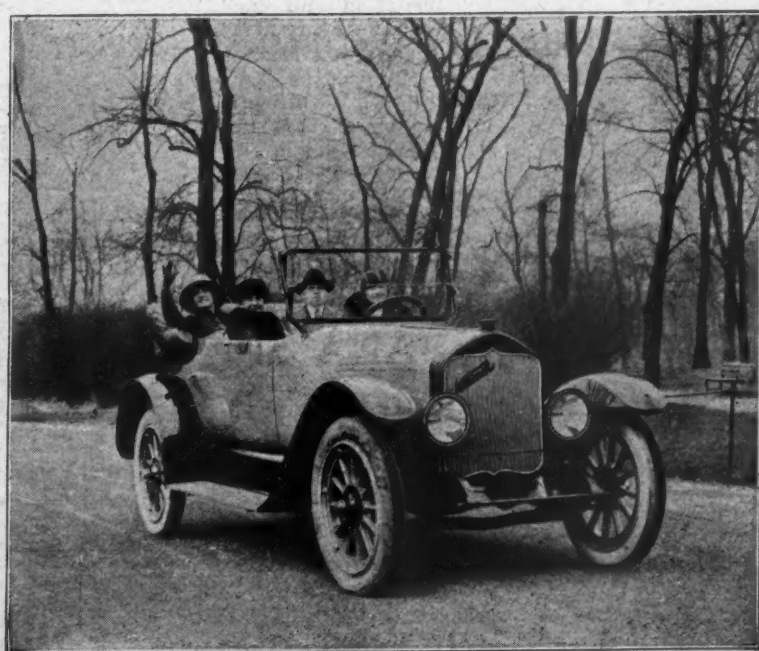
Cars as Money-Savers

The automobile would make good with me even if the things I have mentioned were its only benefits, but its actual money-saving value is so well known that it is scarcely necessary to note the advantage it is to the farmer in helping him get his eggs, butter, small fruits and vegetables to market in quick time and in the pink of condition. If the car is not large enough to accommodate his fresh produce, a trailer, readily attached when needed, will serve the purpose. In this, poultry and livestock may be carried.

There is a story, a true one, often told by a fruit grower who lives a long way the other side of town, which shows how through owning an automobile, he saved a valuable crop of fruit. The spraying season was on. He had a good apple orchard in full bearing and the threat of a serious infection of bitter rot was urging him to make all haste, especially as the weather could scarcely be expected to hold favorable for the time it would require, with his utmost speed, to make a thorough application of Bordeaux mixture.

The work was getting on well when one morning, within 10 minutes after starting, the crank shaft broke. Now imagine what this would have meant if he had been forced to trust to the old dirt road and a team to haul the broken parts 20 miles to the nearest repair shop. It would have meant no more spraying for that day or the next. He would have been uncommonly lucky had he been able to start work again on the third day. Instead of this, he loaded the broken parts into his car, sped into town and had the good fortune, through early arrival, to secure the services of a mechanic at once. By noon he was back with his spray machine in perfect order.

As he is fond of telling, the last tree sprayed had only time to dry before a continued rain set in. The muggy, warm spell of weather, coming upon unsprayed fruit, would have worked havoc in a few days and the infection would have spread



"My Home is More Prosperous and Happier for the Possession of a Car."

(Continued on page 45)

An All-the-Year-Round Friend

When they first came into general use, people used to put up their cars for the winter, now we would laugh at such an idea. Cars are used the year round and thereby much of the dreaded loneliness of country life in the winter is done away with. Our own car is used summer and winter, rain or shine. Business errands are accomplished so much quicker than when we used horses entirely, that there is more time left for leisure and pleasure. Our acquaintance is wider, our mental outlook is broader.

This last point is far from the least. City folk really do not need a car half so much as we who live in the country. They no doubt like a run into the country and it does them good, but even without a car they are in constant touch with men and affairs, while we, without quick means of locomotion, are in large measure cut off from desirable association. Up to the time I bought a car I really did not count as a factor in community or country life. I found it inconvenient to attend meetings of any kind away from home. Even our community

Two Prominent Peach Destroyers

By William Starr, Maryland

THERE are two orchard pests, one an insect, one a fungus, which are so constantly antagonistic to the successful growing of peaches that it behooves every peach culturist to become well acquainted with both of them. Familiarity is said to breed contempt, but familiarity also breeds a certain degree of respect and in the present case it breeds a more precise knowledge of combative measures and precautionary steps. Such familiarity with the trees' enemies will prove to be a constant impetus along the uneven road to success.

In describing the curculio in this article, I am not attempting to plow new ground, but merely reiterating, in part, with the addition of a few personal observations, certain definite knowledge that has come to us repeatedly from well-qualified authorities on entomology.

There are other orchard pests and diseases, such as: San Jose scale, scab, peach tree borer, leaf curl and yellows which deserve nearly equal prominence in the role of destructive agents to the annual peach crop. But curculio and brown rot, working together as they do and always present, or potentially so, in every orchard, can cause more destruction of fruit, if unchecked by proper spraying, than any of the other peach destroyers.

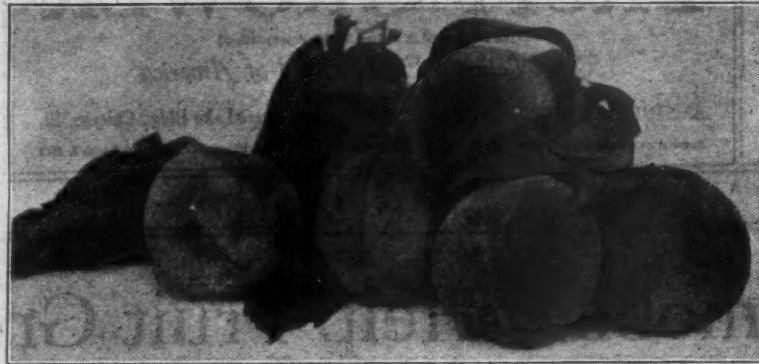
Fortunately these pests can be controlled very easily, very cheaply, and very effectively by spraying. Nowadays the orchardist who does not spray his trees is comparable to the farmer who does not cultivate his corn.

Yet there are many who do not spray and some who do not spray properly or sufficiently. These are not the owners of large orchards, but chiefly the farmers who grow small orchards in their back yards. Some are still skeptical about spraying, some are too lazy or imagine they lack the time for such essential work and a small minority of those who do spray do not spray enough, at the proper time, or with the proper chemical mixtures.

These farmers may lose the greater part of a profitable fruit crop each year and not be very much concerned, for the loss is merely a repetition of previous losses which are thought to be regulated by the Almighty and not by man. Yet the big orchardist across the way may suffer constantly from the pests migrating from his neighbors' neglected trees. No fruit tree should be left unsprayed; there should be laws to that effect in every state.

The Plumb Curculio

The plum curculio, sometimes known as the peach curculio, plum weevil, peach weevil, fruit weevil, peach worm,



J. H. Hale Peaches of Utmost Perfection, Resulting From Thorough Spraying.

little turk, etc., is a small weevil or snout beetle.

The adult beetle is about one-fifth inch in length, exclusive of the snout. It is compact, rough and of a dark, mottled brown color. Its long, curved snout, through which it feeds, supports two elbowed antennae. When molested, the little beetle has a trick of feigning death; the legs and snout are doubled close to the body, so that the insect resembles a small, withered bud which has dropped from the tree.

It is a native of North America, feeding originally upon the wild plum and crataegus. It seems paradoxical to assume that the fact of its origin may point to a natural elimination of its kind in this country, but it is a well-known fact to biologists that a pest often passes out in its native habitat, due to enemies which have risen to prey upon it, while it flourishes with untrammelled vigor on foreign soil. The territory covered by this pest in the United States is broad, being restricted only by the semi-arid deserts of the west. It is found to be more abundant in the central and southern states.

Its Life History

The life history of the beetle is an interesting one and should be familiar to all peach growers. The female beetles make their spring appearance in the peach orchard at or soon after blooming and reach their greatest number about two weeks later, or when the immature fruit is shedding its calyx. As soon as the young peaches are set, the beetle commences her well-intentioned but destructive duty of propagation.

During the six to eight weeks of egg

laying, the female may lay anywhere from one to six hundred eggs, usually placing only one egg to a fruit.

Immediately upon hatching, the larva eats its way to the interior of the fruit where it boards until it has attained its full growth. As the peaches grow larger, the evidences of the destructive agents at work are quite apparent. The fruit is scarred from the egg laying and feeding incisions of the beetle while it becomes diseased and gummy through the workings of the grub. The internal irritation often causes the young fruit to drop. The grub escapes into the ground, lodging not more than two or three inches under the surface. Here it remains for four or five weeks, eventually emerging from the pupal state as an adult beetle.

Mating is accomplished in the late summer and when cold weather sets in, the beetle hibernates in the protection of brush, woods or trash adjacent to the orchard. When a peach grower understands the fact that this insect, as well as many others which may be injurious to his fruit, passes the winter months in the brush and trash about the borders of his orchard, he will realize the prudence of a thorough clearing of the adjacent land.

Burn Trash and Brush

I once knew two fruit growers who lived across the state road from each other. Both had about the same acreage in peach trees, both used similar methods of peach culture and both were fairly successful, but one nearly always escaped with less trouble from the curculio than did his neighbor.

"Why is it," asked Hanson, one year after the first tedious summer spray was

over, "that you have an easy time with the weevil while I have to fight it like mad? Must be that you chase most of yours over to me."

"I used to study about that, too," answered Hill, "but now I think I've got it doped out. You clear the brush out of that strip of wet land south of your orchard and I believe we will both be on an equal footing and be richer for it."

Hanson followed his friend's advice during the slack days of the following winter and the result as shown by the diminution of this pest during the succeeding years was even more satisfactory than either had anticipated.

Method of Control

The curculio is a plant-eating insect and can be controlled by a thorough and consistent application of stomach poison. Arsenate of lead is used, either in powder or in paste. For the first application, which should be made about two weeks after the petals fall or at the time when the calyx is shed, the following mixture is used: One pound of arsenate of lead in powder form (two pounds in paste), dissolved in 50 gallons of water, to which is added about two or three pounds of slacked stone lime. I have made it a practice to substitute the stone lime (which is used to prevent injury to the foliage) for self-boiled lime-sulphur (eight pounds lime, 8 pounds sulphur in 50 gallons water, or one and one-half gallons of the concentrated commercial lime-sulphur).

The second application is made two weeks later. For this, the above formula of lime-sulphur and arsenate of lead is always used. One must watch the trees and growing fruit continually. Three days of neglect may greatly injure a peach crop.

Brown Rot

Brown rot, botanically known as Sclerotinia fructigera, is a fungus disease which attacks the stone fruits and to a slight extent some of the pome fruits. The disease is widespread and should always be considered a potential, if not an immediate, occupant of every peach orchard. It occasionally attacks the blossoms and even the twigs of the peach tree, causing the former to wither and the latter to assume a blighted appearance.

It is commonly found on the young growing fruit, where it often commences growth at the places where the curculio has broken the skin. As the fruit grows soft and succulent with ripeness, the fungus finds an ideal medium for unrestricted growth.

The condition appears first as a small

(Continued on page 35)

The Tractor Show Was Extra Good

By Frank E. Goodwin, Missouri

THE National Tractor Show, held in Kansas City, February 16-21, will long be remembered by everyone who attended or participated. The event was highly educational and inspirational, and the lessons learned from it will be woven into the agricultural history of the nation as the greatest promotion of the power farming idea for many years to come.

To those who attended the show to study, the future of power on the farm became a vision of freedom from the labor shortage which has threatened to decrease production, and unprofitable farm operations. That farm tractors and their attributes are destined to play a wonderful part in the economical production of food for all time to come is certain. The dependence upon high-priced and at times unattainable labor which has threatened the very existence of farmers, is disappearing with the perfection of the tractor, and today the one-man power farming unit is an actuality, as was proved by what was seen on display.

It was educational in that those who studied the displays were convinced that near perfection in the designing and construction of tractors is not far distant—if indeed it is not already accomplished. Many of the machines

exhibited were demonstrated as practically "fool proof." The past few years of study of the products have eliminated the experimental notions of farm tractor engineering, and present-day machines have had built into them the very soundest and most approved mechanical ideas which masters of tractor building can devise.

It was educational in that it was proved that the one-man outfit is all that the name implies. Today there is a tractor built for every purpose, instead of for certain works, and the man whose acres are largely devoted to fruit raising, or the growing of grains, or of a mixed kind of farming, found a model of farm tractor which would serve his purposes without loss of some feature which might reduce the profitable operation of the machine.

Fewer "Freak" Designs

As we studied the show we could see the history of the automobile industry being repeated. The hit-and-miss idea in building tractors is fast being eliminated, and there is a tendency toward standardization which will be more noticeable as the industry grows older.

The "freaks" are becoming less in numbers. And there is a laudable desire to build for general purpose rather than for specific performance.

The general tendency among manufacturers was to the production of but two types of tractors—the four-wheeled kind and the "crawlers." The tractors of three wheels have disappeared entirely. Three or four years ago this type of tractor was considerably in evidence, but each show season has seen withdrawals from the field of the single wheel in front, and it may be supposed that this has proven either impractical or unpopular, as this year no tractors of this kind was shown.

Perhaps one of the surprises of the show was the remarkable increase in the number of tractors of the garden type which were displayed. A year ago but one of these small motors was exhibited. At the recent show there were no less than six makes on the floors, and interviews with manufacturers of general purpose tractors revealed the intention to put upon the market during the present year further models of garden tractors, for

small farms and trucking. All of these little brothers, with the exception of one, were of the two-wheeled type controlled by mechanism attached to the handles.

Garden Motors Have Big Future

The writer is of the opinion that garden motors will be much further developed and improved upon. I believe that they will be increased in power, probably to five horse power on the drawbar and ten horse power on the belt, and so rearranged in design as to permit the operator to ride the tool which is drawn.

My reason for this seeming prophecy is based upon knowledge of those who will use small tractors. Walking for several miles a day is fast becoming a discarded practice. In fact it is said of the farmers of Kansas and Iowa that they will not even buy a garden hoe because they cannot ride it. Then, too, in listening in on conversations about the exhibits of these garden tractors, the chief objection heard was that the operator was required to walk behind the machine, which is little or no improvement upon the use of horses.

Motor cultivators, too, are growing in popularity, and will be greatly developed during the next year or two.

If the writer reads the trend of the industry aright. Several manufacturers of farm tractors and power operated machinery showed motor cultivators in connection with their older lines, and a number of concerns exhibited these machines as their principal product. In this there will likely be abnormal activity and many improvements will without doubt be developed before the next show is held. I believe there will be a general narrowing down of the wide variety of design now in vogue, and the tendency will be toward more compact design, with a general elimination of the wide spread of frame which is now seen in some of the accepted types of motor cultivators. There will likely be some new designing introduced in these machines, to permit of using the motors for general-purpose tractors, and this will be especially true as regards the use of the motors for belt work, with more power developed, to permit of the use of the cultivators in operating power-driven machinery of light types on the small farms.

Another feature more noticeable at the recent National Tractor Show than at previous indoor events was the tendency on the part of tractor manufacturers to build into their machines what might well be termed standardized parts. Many of the highly developed and successful tractors are now using parts obtained from the many makers of what are termed accessories. These may be said to be partly assembled machines. The motors are obtained from one of the several concerns specializing in heavy-duty motors. Transmissions are furnished by another company; clutches from still another; carburetors and magnetos are produced by several specialists in these lines, and air washers come from still other companies. Radiators are especially built by makers who devote their entire energies to this particular branch of tractor parts. Bearings in large variety are furnished by several makers of these essentials, and if the tractors are designed to use chain in driving any part of their mechanism, these chains are supplied by one of several makers who are thriving through the production of these parts.

Implement Firms Build Tractors

Then, too, the writer was struck with the predominance of tractors

made by the old-line manufacturers of farm implements. At the first National Tractor Show held in Kansas City five years ago it was freely predicted that the tractor industry would gradually be drawn away from the implement builders and would eventually find its way into the hands of specialists who would build nothing but tractors. It was pointed out, then, that the implement manufacturers were not progressive; that it was not

National Tractor Show as a barometer of the tractor industry, the manufacturers of farm implements who were the pioneers in the building of tractors, have more than held their own during the past five years. Their products are even more in evidence today, as compared with the number of tractors shown, than they were at the first show. And while there has not been any general breaking away from the types shown at the initial



Tractor-Drawn Disk Plows Are Suitable for Some Soils

within the possibilities of engineering practices to develop highly successful tractors in the same plants which produced farm operating equipment of horse-drawn construction, and many a self-styled engineering expert voiced his belief that the implement concerns must, on account of the handicaps of the manufacture of general lines of farm tools, withdraw from the making of farm tractors, and would be succeeded by specialists whose entire energies would be devoted to the making and marketing of tractors alone.

That for once the almost unanimous opinions of highly developed experts in mechanics were out of line with what has since transpired, has been proved by the tenacity with which the implement manufacturers have stuck to their work. Today, if we judge the

show, there has been perfection built into the machines as the result of five years of experiment and development, and today the tractors produced by the old-time implement companies are among the leaders both in popularity and in satisfaction given.

Better Fuel Economy Needed

But there is another matter which the student of farm mechanics learned at the National Tractor Show, which will require the most careful consideration of the engineering departments of the tractor builders. This is the feature of economy.

The writer believes that the next long step which will be taken by manufacturers of tractors will be that of fuel consumption. The rapidly advancing cost of gasoline and kerosene

requires that the more economical use of fuel shall be studied and developed. While the use of kerosene as fuel has been more or less successfully achieved during the past two or three years, it has not yet reached that stage where it can be termed perfect. A number of devices have been invented to more perfectly transform kerosene into highly explosive fuel, but these have been only in part effective. More power will ultimately be produced from each drop of kerosene, and the present tendency to produce an abnormal amount of carbon through the use of kerosene will of necessity be corrected.

The inspirational feature of the National Tractor Show was more apparent under the surface than the ordinary layman attendant observed. But it existed in the determination of the manufacturers to produce more machines to meet the demand which already is in excess of the supply. By the very nature of competition the task of improving the product will go on unabated, and this will go on and on, like the immortal Tennyson's "Brook," because perfection can never be entirely reached. Then there is the inspiration to bring about greater economies in production to the end that better machines can be supplied at present prices, or dependable tractors at lower prices, to the advantage of both the distributors and purchasers.

It was a wonderful show, and when compared with the first one held five years ago, proved more conclusively than words can tell of the remarkable strides which the power farming industry has made. Three floors of a building stretching from all four streets of a city block, were completely filled with farm tractors, their attributes and accessories. The Show in itself was one well worth traveling across the continent to witness, and in its immensity required the full week which was devoted to its holding to become even fairly familiar with the products shown.

The next show will likely eclipse the recent one in size and in interest shown in all its detail, as has been the history of the past five events which were conceived at Kansas City. Just where and when the peak will be reached requires more prophetic courage than the writer possesses.

Soil Conditions for Apple Orchards

By E. W. Mendenhau, Ohio

THE best soil for apple trees is a medium-heavy clay loam soil and well drained. A good many soils are not suitable for an apple orchard. Coarse, sandy and gravelly soils are usually deficient in available plant food for best results. A good, deep, strong soil that will grow the biggest crops of grain will grow the biggest crops of apples, other things being equal. However, there is some exception to this, as some of our best orchards are in a soil composed entirely of sand and other soil that is apparently poor. The most important thing is to have a soil that is well drained and of good depth.

A slightly rolling surface is usually an advantage, while steep slopes are to be avoided because of the tendency to wash and form gullies after severe rains. A good slope not only drains the water off rapidly, but gives less danger from frost injury. The location for fruit growing must be reasonably free from late spring frosts. Avoid planting in lowlands where the cold air settles at night. The sides and tops of hills are the safest places.

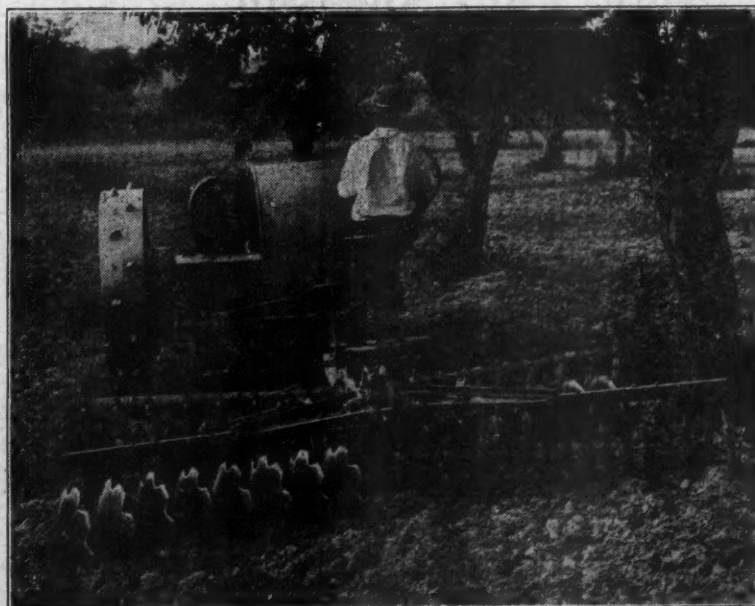
An eastern or southern exposure will frequently cause apples to color better, while a western or northern slope will sometimes retard blooming sufficiently long to escape a late spring frost. There are exceptions, as there are many successful orchards in the bottom of the valley, but in such cases there are usually winds which blow constantly and which prevent frost injury. Another exception is along the shores of lakes, where the ground may be level, but adjacent bodies of water retain enough heat to prevent frosting.

An orchard may have a good slope and still be poorly drained, as in some

cases where the subsoil is very tight, consisting of impervious clay or shale which does not allow the water to pass through it. On the other hand, some level lands are well drained, but they are nearly always porous, very sandy soils

or a porous loam which allows the rain to soak through nearly as fast as it falls. Alkali soils are caused by poor drainage as found in irrigated regions.

There is a good deal of discussion on location as to damage from spring frost



Good Management of the Soil is Essential for Heavy Crops of Fruit

and sun scalds, but the most important thing to consider in location is that it be free from spring frosts with good air and water drainage. Different fruits seem to prefer certain kinds of soil. Soils are divided primarily into clay loam and sandy soils, with many variations between. The difference is in the size of the particles of earth. Clay is made of the smallest particles of earth and when you rub it in your hand you feel no grit. A sandy soil is made of fine sand and you can feel a grit in it. A loam is half-way between sand and clay.

Clay soil should be plowed deeply and harrowed thoroughly until in good condition for planting. Loam soil, like clay land, should be plowed deeply. It is usually fertile and does not require manuring as often as clay or sandy soil. It does not require such careful handling as does the clay soil. Trees will grow late in the season on this soil, therefore cultivation should cease earlier so it will mature for the winter. Sandy soil, while it does not contain as much plant food as others, responds quickly to fertilizers and cover crops and, under proper management, produces highly colored fruit.

Methods of Culture

There are two methods of orchard culture, both based on the idea of maintaining the soil in a high degree of fertility: 1. Soil tillage. 2. The sod mulch.

Some orchardists who follow the former system cultivate the soil throughout the year. Others sow a cover crop of clover, vetch, rye, etc., while still others grow a companion crop, potatoes or

(Continued on page 22)

Orchard Problems and Their Solution

AMOUNT OF CULTIVATION NEEDED

Q.—Will you kindly inform me what is the amount of cultivation considered necessary in an apple orchard that has some promise of fruit and will be seven years old this spring?—H. G. K., Maryland.

A.—Cultivation in a young orchard is a very good practice to follow, particularly if the orchard site is not too steep. One method of cultivation which has proved very satisfactory is to plow in the spring, not deep enough to injure the roots of the young trees, and then cultivate frequently, perhaps every week or 10 days. Stop cultivation on the trees the latter part of July or even earlier in some sections, and sow a cover crop, such as cowpeas or soybeans or some other cover crop. This will tend to make a good cover and prevent erosion in the winter. In these days with the tractor and orchard cultivators, such as the disc harrow, a large acreage can be kept in finely cultivated condition. Cover crops will furnish plant food and add humus to the soil.

MAMMOTH BLACK TWIG OR PARAGON

Q.—Please tell me what latitude is best for the Black Twig apple? Would southern Iowa or northern Kansas be all right for it? Is this variety comparatively self-fertile, and if not, what varieties should be used with it? Is it a good market apple, selling easily to dealers? I would appreciate very much information in regard to the above matters and also your opinion as to whether the Black Twig is a good, profitable apple to raise.—O. L. G., Iowa.

A.—The Black Twig or Mammoth Black Twig, as it is commonly known, is a variety about which there is a great deal of misunderstanding. The old-time Mammoth Black Twig originated in Arkansas and is known by the name of Arkansas. It is a large, dull-colored apple, tree is a very large grower, but a shy bearer. This variety has not proven very profitable in the orchards over the country on account of its shy bearing quality. It also tends to scald in storage. There is another variety which originated in Tennessee and is called Paragon. This is a large apple, not quite as large as the Arkansas (Mammoth Black Twig) but it is a highly-colored red apple, good quality and a good, regular, heavy bearer. Many people consider it the best of the Winesap type, and it is undoubtedly one of the coming commercial apples.

Some years ago the American Pomological Society in comparing the fruit of the two varieties pronounced them identical. As a result, the nurserymen of the country put all propagation together and this has been responsible for a big mixture in this variety. It explains why some Mammoth Black Twig orchards are poor, shy bearers and others are regular, heavy bearers of highly-colored fruit. On the market they are generally known as Mammoth Black Twig, but wherever the Mammoth Black Twig has proven a heavy bearer of highly-colored fruit it is safe to say that they have Paragon trees. I would not advise any one to plant the old-fashioned Black Twig, or Arkansas, but the Paragon should be planted heavily. It is being planted here in the central west, also in many eastern states. Over in New Jersey and Pennsylvania last year, I saw some splendid Paragon. Growers there are all planting it heavily, because they have found it to be a good bearer of large size and highly-colored fruit. They are selling it for high prices on the market and consider it among the best commercial varieties.

In buying Mammoth Black Twig trees for your orchard you may get the old-time Arkansas or you may get the Paragon. If you get the Paragon you will undoubtedly get a good, profitable, commercial apple. It will be safest for you to specify Paragon. Being of the Winesap type it is not extremely hardy, but will grow as far north as any of the Winesap type, as

By Paul C. Stark, Associate Editor

This department is intended to be of service particularly to the beginner in fruit growing, and to aid him in a better understanding of the principles of fruit growing. Every grower, big or little, young or old, is occasionally confronted by problems that are confusing. Let us help you in solving those problems. Address, Paul C. Stark, Associate Editor, AMERICAN FRUIT GROWER, Chicago, Ill. Such questions as are of general interest will be answered through these columns; others will be answered direct by mail.

it is one of the hardest of that family. In southern Iowa I would not hesitate to plant it.

PRUNING PLUMS AND PEACHES

Q.—Would you kindly tell me or how to go about pruning a plum and peach orchard that had all the large bottom limbs cut away and how to get it to grow these back again? This orchard is about 12 years old.—C. Z., Mo.

A.—This is a condition that is true in many orchards of the country. People say they are going to prune "up" their orchards when as a matter of fact they should be pruning them "down." This is particularly true of the peach, as the peach tree tends to grow higher unless a system of pruning them down is followed. This is accounted for by the fact that peaches are borne on the wood of the former season's growth. Therefore this bearing area gets higher and higher unless trees are pruned regularly so the branches are kept low. Sometimes old orchards are dehorned heavily and, as a result, they often do not survive the heavy pruning. Nevertheless, after the trees get entirely too high a system of pruning back is generally necessary. It is much better to start when the tree is young and keep the branches low.

The big limbs you have cut away will be down underneath the other limbs and in that way will be shaded and very difficult to make any of them

grow back. My suggestion would be to head your peach trees back moderately and try to grow a head somewhat lower than the one you now have.

In this connection it is well to mention a mistake that many people make in pruning their shade trees, particularly Silver Maple. Most people think Silver Maple must be dehorned every so often. But very frequently, the trees when given this severe dehorning either die or make such a weak growth that they eventually succumb. Instead of using this method you can thin out some of the branches to make the head more open and also shorten in the branches a moderate distance, but always leave plenty of the young wood to bear the foliage. Keep in mind that the leaves of the tree are the "manufacturing plant" of the tree. If the limbs are cut clear off and no young wood left to bear the leaves, they cannot make the food available for the use of the tree.

JUNE BUDDED PEACH TREES

Q.—I would like some information on grafting and budding. I notice some nurseries are advertising June budded peach trees. How is this done? How old a stock do they bud on? Where do they get their buds at that time of year?—S. G. E., Ohio.

A.—June budded peach trees are grown by budding the peach seedlings early in the season, from May 15 to

June 15, and then forcing this bud to grow into a tree the same season that the budding is done. The bud is forced to grow by pruning back the top of the seedling. This produces a merchantable tree in one season where otherwise it takes two seasons to grow a yearling peach tree. June budded peach trees make excellent orchards and a large number of commercial growers prefer them to the older (yearling) tree.

In growing peach trees, the seed is planted in the fall. The following spring the seedling comes up and is budded. If it is budded early as mentioned above, the tree can be grown into a June bud. If it is budded later, the bud remains dormant but the following spring it starts to grow and at that time the top of the seedling, just above the dormant bud, is cut off, allowing all the strength to go into the bud and thus form the tree. Owing to the length of the growing season, most of the June buds are grown in the southern states. Authorities are recommending low headed peach trees and the June buds are ideal for this purpose.

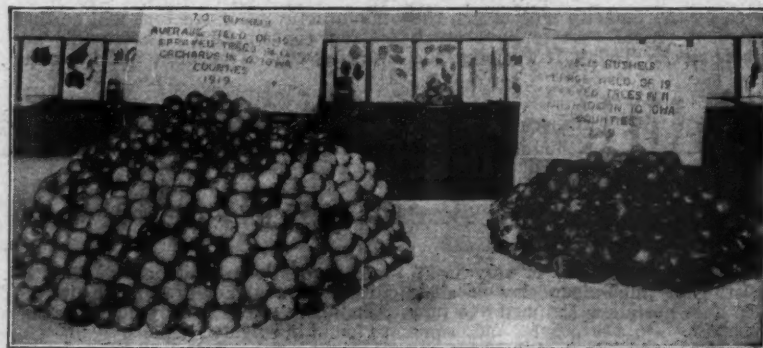
RENOVATING CHERRY AND APPLE

Q.—Have six apple trees and 12 cherry trees. Have not ever been pruned or sprayed. Can you furnish me with the desired information regarding above? Cherries about 10 years old; apple about 15 years.—A. E. A., Indiana.

A.—The best time to prune trees under ordinary circumstances is in the late winter or early spring before growth starts. However, even though it is a little later than pruning is usually done, I would advise you to prune your trees at once, by following a system of thinning out the tops and heading the trees in moderately. At this season of the year when your foliage has started to grow, I would not advise pruning quite as severely as trees should be pruned if the work had been done in the late winter. Very often people make the mistake of pruning their trees entirely too severely—sometimes called dehorning. In apple trees this is not a good practice because it has two bad effects. First, it is too severe a shock to the tree, and secondly, it will tend to make the tree throw out a lot of water sprouts that will delay the bearing of the tree. Use moderation in your pruning, but aim to open up the head, thinning out some of the surplus branches and shorten back the long straggly ones, thus making the tree produce a stouter and stockier head. Also remember that a limb that is very long and rangy cannot support as big a crop without breaking as the limb that is shorter and stockier.

Your cherries may need some pruning such as cutting out of broken branches, also some branches that may be too thick, thus opening up the head. Bear in mind that cherry trees do not require as much pruning as most other fruit trees. By all means spray your trees. It would require too much space at this time to go into details of spraying, but I am sending Orchard and Spray Book that will give you full information and will give you a concise, brief description of the accepted methods of spraying and caring for the different kinds of fruit trees. The spraying calendar on page 12 of the April AMERICAN FRUIT GROWER will be found useful. Your trees are at an age where they can be cared for and still be brought back to a good prolific basis, but don't delay the work any longer. Fruit trees are extremely profitable when cared for, but when neglected, they are not profitable. For your apple trees, I would suggest that you use a good heavy application of manure, or instead of manure, use five pounds of nitrate of soda to a tree, scattering under the tree out as far as the branches extend.

The pecan industry promises to be one of the largest in west Texas in a few years.



Proof That Spraying Pays

During the past season spraying demonstrations were conducted in Iowa under the direction of Prof. R. S. Herrick of the Pomology Department of Iowa State College. These experiments were carried on in 11 apple orchards in 10 Iowa counties. The average age of the trees, which were chiefly of the Wealthy or Grimes Golden varieties, was 18 years. A power sprayer was used and the work was done by experts from the college. Four sprays were used of lime-sulphur and lead arsenate at the average rate of 17.6 gallons per tree. Codling moth and apple scab were the chief troubles for which the sprays were applied.

Without going into unnecessary detail here it may be stated that the average yield of the sprayed tree was 7.05 bushels of first-grade fruit as against 2.75 bushels of poor fruit on the unsprayed. The average value of the sprayed tree was \$14.10 as against \$2.76 for the unsprayed. Taking into account the cost of spray materials, labor, and depreciation, the average cost per tree was slightly less than 60 cents which was more than compensated for by the yield of first-class fruit.

The accompanying photograph was taken of representative piles of fruit

from sprayed and unsprayed trees at the Mid-West Horticultural Exhibit held in Des Moines, November 10 to 15. The apples were all carefully wrapped and packed when shipped to Des Moines, but in spite of this care much of the unsprayed fruit became so rotted that it was impossible to use it in the exhibit, and in the few days of the show, in spite of the prevailing cold weather, the soft storage rots destroyed much of the unsprayed fruit while in the pile of apples sprayed not a single apple in seven bushels developed rot.

Commercial apple growers have already realized the absolute importance of spraying apple trees, not only to keep their orchards in prime condition, but also to increase the yield and give them unblemished fruit that can command top prices on the market. The saying "spraying is crop insurance" is very strikingly illustrated by the above demonstrations. With the average gain in value of the sprayed over the unsprayed trees of over \$10, it can be easily seen that in any orchard of considerable size the increased yield due to spraying will easily pay for the purchase of a first-class power spraying outfit.

With Our Editor

Trademarked Nursery Stock

IN YEARS that have passed, the nursery agent has come in for just about as many hard knocks as the lightning rod agent. Sometimes deservedly so, but too often the blame belonged to the nursery firm instead of the agent. But the nursery trade, like all other kinds of business, has grown in knowledge as it increased in years and now, through its trade association, it is making substantial headway.

That organization, the American Association of Nurserymen, is energetically working to correct some of the thoughtless practices that have continued in the trade for many years. It is striving to educate its members in good business practices and in giving the customer a square deal. It is endeavoring to increase public confidence in its membership and to stimulate the planting of all nursery products. Membership in the association is restricted to only those firms that meet the rigid requirements that have been established. A trademark recently has been adopted and is to be used by members of the association on letterheads, shipping tags, catalogs, credentials of salesmen, etc. This trademark will identify the firm as a member of the association and, therefore, one that will treat its customers fairly in all transactions.

This is a very creditable step forward and one that will do much to insure the confidence of planters. The association deserves the membership of every progressive nursery firm in the country, and it is not to be doubted but that the members who make full use of the association's trademark and policy of giving the customer a square deal are the ones that will reap the reward.

Possibilities in Cider

CIDER, long popular as a beverage, gives promise of coming into its own as a soft drink of first rank. Prohibition gave a black eye to the kind of cider which had stood for a time in an open vessel and developed a "kick" like unto that of the Missouri mule. But it did strengthen the standing of pasteurized sweet cider. The popularity of this produce is bound to increase, but as in the case of grape and other fruit juices, not every fruit grower is in position to manufacture an article of real merit. Neither is he in position to market such an article after it is made.

One must know how to make a high-grade juice. Suitable equipment must be had, and where a considerable quantity of juice is manufactured, a more or less extensive sales organization must exist. Lots of room exists for the commercial manufacture of pasteurized sweet cider, and we look forward to the time when a number of large institutions will be engaged in its pro-

duction. At this time many fruit growers are thinking seriously of beginning the manufacture of apple juice. In so doing, one item that must not be overlooked is the matter of profit from the fruit. When the orchard price of \$5 or more a barrel can be had for apples, is it more profitable to sell the fruit or make it into juice?

The manufacture of apple juice on a large scale is a commercial undertaking, and while fruit growers can look with distinct favor on such a business, there should be no feeling that every orchard should have its juice factory.

The future of the apple juice business will depend upon the manufacturer putting on the market a product which is the pure juice of clean, sound apples. To do this will require the use of fruit that is entirely free from insect and fungus injury. This in turn requires that the grower spray thoroughly and produce a grade of fruit much superior to the kind that usually finds its way to the vinegar factory. Such apples should and will command a good price, and the more conscientiously the juice maker clings to the use of such fruit, and advertises the fact, the quicker will the business get on its feet and profit the fruit grower, the juice maker and the consumer.

Introducing W. W. Rhoads

THE hundreds of letters received by the writer in reply to his introduction in the April issue of the AMERICAN FRUIT GROWER is very indicative of the reader interest in this publication.

You have made me very happy and although time will not permit answering each individual letter, I will endeavor to take advantage of the suggestions received. So many have expressed their approval of what we are doing, that our incentive to do greater things grows each day.

Branch offices will eventually be established in all parts of America in order that we may associate ourselves more closely with the readers. The representatives of these offices will study conditions in your particular section. They will advance information obtained through personal visits with people who have only a small garden and from them on up to the commercial fruit grower. They will be expected to check the service you receive from this office and at the same time solicit further patronage to the AMERICAN FRUIT GROWER.

Let us introduce our first office and its representative, W. W. Rhoads, 1411 Wyandotte St., Kansas City, Mo. Mr. Rhoads has worked diligently for many years, with agricultural publications through the Middle West. He is familiar with many fruit growers in Arkansas, Missouri, Kansas, Nebraska and Iowa, and we feel unusually fortunate in having him as our representative for these states.

You are invited to visit Mr. Rhoads at his office whenever you are in Kansas City, and when you find it necessary to register a complaint because of some misunderstanding on the part of a salesman from the Kansas City office, do so by making your troubles known immediately. A fair and square deal to all is the watch word of the AMERICAN FRUIT GROWER.

DEPARTMENT OF CIRCULATION.

W. W. Rhoads
Director

Fruit, the Big Opportunity

THERE is no getting away from the fact that the young man of small means who would go on a farm is confronted by a situation which is becoming more and more difficult as land prices advance. If he would engage in general farming, where a considerable acreage of good agricultural land is a necessity, he must either have a substantial amount of capital, or he must become a tenant. If, on the other hand, he would grow fruit, he will have less difficulty in finding a satisfactory location and on land that is relatively low in cost.

Some of the best land for fruit growing is not well suited to general farming. It is rolling, even hilly, and in some cases it is very rocky. Its fertility may be very low as compared to the best land for grain or pasture. As a result its valuation is proportionately small. Expensive land is not a necessity for fruit growing in spite of the fact that highly profitable orchards may be found on land that cost several hundred dollars an acre. But cheap land, just because it is cheap, is not necessarily good for fruit.

In almost every state there are thousands of acres of land unsuited for general farming, but which is more or less well adapted to fruit growing and which can be bought at low figures. It is to such locations that the young man in search of a future home and business can well turn his eyes. Fruit growing has large possibilities. There cannot be too much fruit. As the production of any kind increases, new uses are discovered that afford outlets which in some cases greatly exceed the visible boundary of the original market.

To Spread Self-Education

THE federal bureau of education has compiled statistics which show that out of the 2,964 counties in the United States, 2,170 of them do not contain a public library in which may be found at least 5,000 books. In other words, less than 800 counties have libraries of at least fair size for the use of the residents of the counties. While this situation is not surprising it is, nevertheless, true that the lack of library facilities retards, to a considerable degree, the educational progress of the country as a whole.

But a "Books for Everybody" movement has been launched by the American Library Association which plans to lessen the difficulties of securing access to books of all descriptions. According to the association "Librarians believe that many of the industrial and economic problems that are now agitating the country have arisen from a lack of knowledge on the part of the agitators. They are confident that dissemination of the truth on all sides of all questions will do much toward solving many of these problems."

The Sealdsweet



Fruit Grower

A section devoted to the activities of the **FLORIDA** and co-operative marketing of Florida fruit

CITRUS FRUITS IN DIET

A recent technical article of considerable interest to citrus growers was that which appeared in the International Journal of Surgery upon the subject of citrus fruits. The article was from the pen of Dr. L. S. Oppenheimer of Tampa, one of the associate editors of that publication.

The article dealt with citrus fruits in detail and the relative food and dietetic values of various varieties. The use of citrus fruits in the diet of convalescents also was ably discussed. Dr. Oppenheimer very appropriately suggests that as the value of these fruits lies in the juice, hospitals will do well in their purchases of citrus fruits to buy them by weight in order to be assured of the juice content. This is something which, if acted upon, would assure the purchase of a large quantity of Florida citrus fruits, because of their average greater weight and juice content.

PROHIBITION WILL BENEFIT FLORIDA

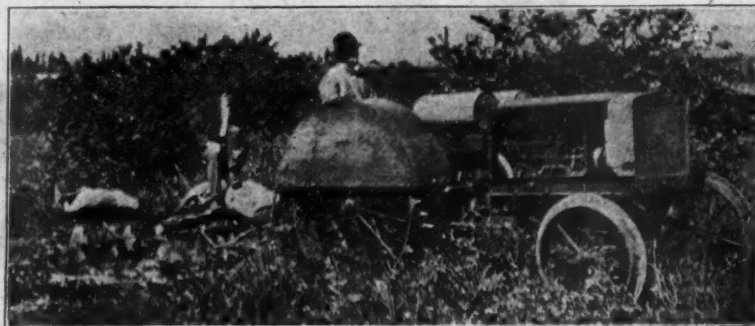
Recently in these columns there has been chronicled, from time to time, news of the increasing use of citrus fruits as result of prohibition. Still another thought on this subject comes from the Florida Educational and Temperance League which in a circular says:

"While Florida has benefited in many ways through the operation of the prohibition laws, there are few people in this state who realize that the citrus industry has been greatly helped by the elimination of booze in the United States. The citrus industry is one of the main vertebrae of the financial backbone of Florida and what helps the citrus fruit business benefits every person in the state directly or indirectly. Here is how the passing of booze has helped the Florida citrus industry. Formerly, in the days when John Barleycorn was more of a personage and less of a memory than at present, when 'a few gathered together' to banquet, what came first? The answer is—the cocktail. No formal dinner was considered complete, in formal circles, without a cocktail to start it off. Things are different now. For when prospective diners gather around the flower-decked board, what comes first, in this day of prohibition? An 'apertif,' to use the French word—but Nature's own, glowing still with the kiss of Florida's prize products—the grapefruit. The Florida grapefruit is Nature's own appetizer. Caterers soon 'learned this after the inauguration of prohibition, and the practice of serving grapefruit as the first course of formal dinners is spreading generally. It is simply a matter of education, and the people of the United States are learning that Florida provides an entirely satisfying and altogether 'safe' substitute for the alcoholic concoction which formerly was considered necessary to begin every big dinner."

SPECIAL SALES BOOST CITRUS

Photographs and detailed reports of special grapefruit sales and demonstrations recently held in various cities in co-operation with local newspapers continue to pour in. Did space permit, pages might be devoted to them. However, it is sufficient to say these uniformly have been very successful. The co-operation which advertising staffs of the various newspapers have given has been invaluable to the Exchange. It has made it possible to repeat successfully the demonstrations which the Exchange specialty crew has been handling so well, and to give a large number of them simultaneously, the local newspaper men directing them most capably in accordance with uniform instructions furnished to them.

During the time these have been held special "sales" of grapefruit have been staged by stores co-operating, and the resulting large movement of grapefruit



Good Tillage Is an Important Factor in the Production of Sealdsweet Citrus

has done much to popularize it and further stimulate demand. It is only fair that due credit be given the large number of stores which have assisted. In many cases they have priced grapefruit so low as to leave little or no profit for themselves. They were moved to do so by the desire to hitch their stores closely to the special advertising in the newspapers, but when once embarked upon the project seem to have gone into these sales with enthusiasm and effectiveness.

Simply to recite a brief paragraph from each of these numerous reports would occupy considerably more space than is available for the Sealdsweet Chronicle. The photographs, perhaps, are more interesting, and an effort will be made to present as many of these as possible. These combination sales and demonstrations coming simultaneously over widespread territory must be credited with having effected the broadest distribution of grapefruit at any time since the beginning of grapefruit shipments from Florida.

SHOW WRAPPED FRUIT

Reports of recent special grapefruit sales and demonstrations in connection with co-operating local newspapers continue to pour in. It is impossible to devote proper amount of space to them (for each report really would be very interesting to growers), but the recent success in the city of Washington seems particularly deserving of mention. Concerning it, J. A. O'Malley, indefatigable representative of the Exchange in Washington, writes:

"Both the special sale and demonstration were, in my opinion, most successful and as a direct result of the campaign a marked improvement in the demand for grapefruit is noted. Messrs. Cornwell & Son report their sales both during the week of the demonstration and during the week just closed as the heaviest in many seasons, while the Sanitary Grocery Company is now using well over a thousand boxes of grapefruit per week as compared with about half that number prior to the special sale. It is remarkable to note the manner in which the small stores and fruit stands are taking advantage of the advertising by their displays of wrapped fruit instead of displaying only unwrapped stocks as formerly. The better class of stores and stands realize that a demand for "Sealdsweet" oranges and grapefruit has been created and our trade-marked wrappers occupy a prominent place in their displays. There is no question but that the campaign in Washington produced excellent results."

"JUICE" IS THE ANSWER

The growth of Brooklyn has been such that it is today by far the biggest borough in Greater New York, and Brooklynites are saying the name of the metropolis really should be "Greater Brooklyn." In Brooklyn is located the Wallabout Market, which is probably the largest fruit and produce market in the world. In giving quotations of the Wallabout market the Brooklyn

Eagle, in its issue of March 16th, said: "The best California oranges dropped 50 cents per box. Florida oranges advanced that much to \$6.50 for fruit of medium quality and \$8.50 for the best."

Commenting upon this, Manager R. H. Holland, of the Exchange, New York office, says: "When a large percentage of the population of any large city show a preference for Florida oranges over California oranges there must be some reason, and this reason is 'juice.'"

ORANGES IN BUENOS AIRES

In the columns of La Nacion, the great newspaper published at the capital of the Argentine Republic, an Exchange grower who reads Spanish, has discovered oranges to have been selling recently at \$22 per box of 50 kilos, or approximately 107 pounds. Figuring on this basis he estimates the retail price of oranges to have been from 25 to 35 cents per pound.

Oranges sold in the Argentine are grown in Brazil and travel the long distance from Rio Janiero to Buenos Aires in steamers. The Argentinians must be fond of them to pay such prices, for there has been no depreciation in Argentine money. On the contrary, it requires approximately \$1.02 U. S. money today to purchase an Argentine peso.

EDITOR IS EXCHANGE BOOSTER

The citrus growers of Frostproof can now look over the conditions in this district and appreciate what has been done for them by the operation of the Florida Citrus Exchange and realize that those who have helped to bring about favorable conditions and stick to the organization are the ones who will be benefited.

Stick to the Exchange because, without any doubt, the high prices now being offered would never have been made if the Exchange was out of this district. The Exchange always gets the market prices for fruit and now is the time to prove the benefits of the Exchange by building up an even stronger organization for the future.—Frostproof Highland News.

NEW PACKING HOUSE AT BRADENTOWN

The new Citrus Exchange packing house that has been under construction for several months, and the completion of which was delayed by the failure of material to arrive as promised, is now about ready to start the wheels going. Last Saturday the Journal man went over the place with some of the directors and with one or two people from outside of Bradentown. These men told us that the house and equipment that is being installed make this one of the model packing houses of Florida.

The directors and officers of the Exchange are to be congratulated on the splendid property they will have in operation in a few days.

The packing house proper is 100 by 180 feet and is built so that additional units can easily be added whenever more space is needed. It has a platform on the south and east fronts for loading cars on the two roads, both the Seaboard

and Tampa Southern having sidetracks to the building.

The latest machinery has been installed, and the building is equipped with five big conveyors and two washers, and each unit can handle four different sizes of fruit.

The building is protected by a sprinkling system, which is the latest thing in sprinkling systems, and gives the building a very low rate of insurance.

A commodious garage is built adjoining the packing house on the north.—Manatee Journal, Bradentown.

NEW YORK "EATS 'EM ALIVE"

Assistant Salesmanager Charles A. Price of the Exchange calls attention to the remarkable absorption recently of large quantities of citrus fruits by the New York market. On March 3d, the New York auction handled 11,115 boxes of Florida citrus fruits as against 2,200 boxes for the corresponding day last year. On the following day it handled 15,050 boxes Florida citrus fruits as against 425 boxes for the corresponding day last year. On the next day, March 5th, it handled 8,015 boxes Florida citrus fruits as against 1,105 boxes for the corresponding day last year.

During these three days alone this market, therefore, handled 34,170 boxes of Florida citrus fruits as against a total of 3,750 boxes during the corresponding three days last season—almost 10 times as much. Considering the prices paid at the time, the record certainly is remarkable, particularly when it is noted that sales of California citrus fruits at the same time also exceeded those for the same period last year by something like three times as much.

TWO REMARKABLE SALES

Recently market prices for oranges have been such as to produce some rather unusual sales in many markets. Perhaps two of the most notable of the sales were made in Boston.

FCE-4678, containing round oranges under the Bob White brand, was shipped by Theodore Strawn, an Exchange special shipper, from DeLeon Springs, February 14th. It was sold in Boston, February 25th for \$3,375.45 gross. It contained 199 boxes brights, 170 goldens and 15 russets, or a total of 384 boxes, making the average price per box for all fruit slightly over \$8.80 gross. The selling price of the brights was \$8.97, of the goldens \$8.79 and of the russets \$8.45 per box, gross.

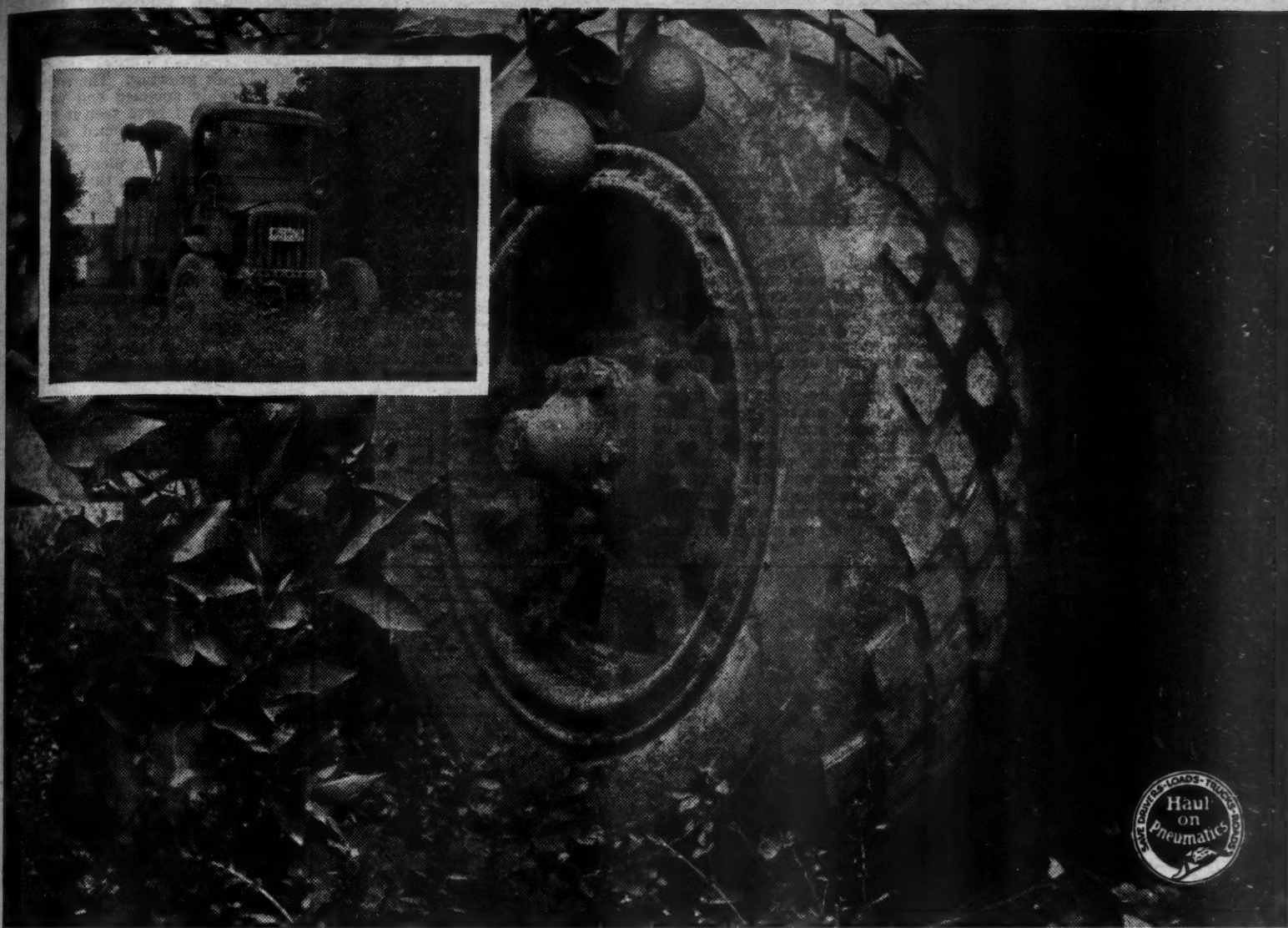
Another remarkable sale was that of FCE-4782 from the City Point Citrus Growers' Association, which sold in Boston, March 1st. This contained 109 boxes of brights, 138 goldens and 137 russets, which brought respectively \$9.30, \$8.75 and \$8.30. The gross price for the car of 384 boxes of round oranges was \$3,358.30, or an average of \$8.76 gross per box f. o. b. Boston.

SUMS UP CITRUS SEASON

A representative of the New York Commercial recently was in the state and wrote at length on the subject of the citrus crop. After dealing with figures covering several seasons the article concludes:

"There is, of course, a higher cost of production to be charged against this year's crop, but the profits to growers are larger. So far as the independent shippers and speculative buyers are concerned, the season has been less remunerative. For about four months the most independents lost money. It is only lately they have been recouping on earlier losses. But all interests will work out with a little balance over."

Inasmuch as this writer put in considerable time at the headquarters of some larger outside organizations it must be assumed there is warrant for this statement. What in some quarters earlier was designated as "senseless slashing of market prices," evidently did not return profits.



Copyright 1920, by The Goodyear Tire & Rubber Co.

"It is of distinct advantage for us to use Goodyear Cord Tires instead of solid tires on our trucks hauling from orchards, because these big pneumatics track nicely through loose soil or plowed ground and do not really pack it. Solid-tired trucks are assessed \$10 a ton here—pneumatic-tired trucks are assessed only \$5 a ton because they save roads."
A. M. Edwards, of Edwards & Patillo, Fruit Growers and Truckmen, Fullerton, California

THE gripping and agile qualities of Goodyear Cord Tires on trucks have won for them many significant rural endorsements like the one presented above.

Whether an orchard lies in soft soil, or fencing is to be done in a grassy field, or a mud-bottomed hollow separates the back acres, the big Goodyear Cord Tires go through quickly.

So today farmers frequently point to the tracks of these tires in miry hog lots, soggy meadows and acres strewn with fertilizer, where they have made short cuts and saved time many times.

In all parts of the country, the observer can

note crop loads, cushioned on the husky Goodyear Cord Tires, being hauled through sand and bogs, across furrowed earth and up slippery hillsides with impressive ease.

The intense serviceability of the pneumatic truck tire, founded on the supple toughness of Goodyear Cord construction, has been built out of that ceaseless endeavor to improve, which protects our good name.

Now a large amount of information, supplied by farmers and describing the advantages of pneumatic truck tires, can be obtained by writing to The Goodyear Tire & Rubber Company, Akron, Ohio.

GOODYEAR
CORD TIRES

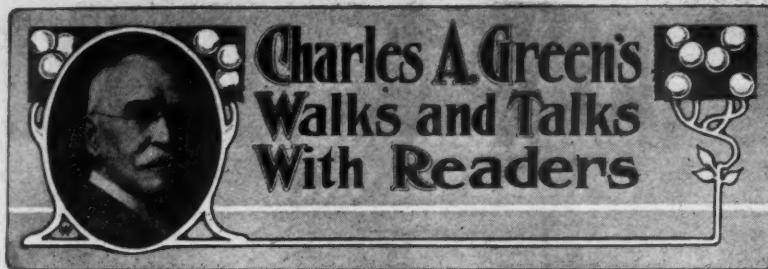
Snow the Poor Man's Manure

I HAVE noticed that after a long period of a snowy winter, where heavy falls of snow rested upon the earth for months, the season following was apt to be remarkably productive. Almost anything that covers the soil in the growing season adds to the moisture and fertility of the land beneath. Thus if a board or stone or a pile of sods or rubbish is left upon the soil you are apt to find the soil moist beneath even in a dry spell. The covering of the earth with a heavy blanket of snow could not be expected to have the same effect as a covering during the growing season, and yet it is possible it may have some effect. Heavy falls of snow extract the frost from the soil beneath and render more effectively the beneficent action of earth worms. Snow or rain contains ammonia. Possibly the ammonia in the snow is more beneficial than that in rain. The question is, which conveys the most material from the atmosphere to the earth, the rainfall or the snowfall?

A blanket of snow is one of the warmest of all blankets, warmer than

a woolen blanket. This is owing to the fact that there is more air space between the flakes of snow than there is between most blankets and these air spaces are sources of warmth. Woolen is warmer than cotton for the reason that there are more air spaces in woolen cloth.

Those who are growing strawberries, winter wheat, rye or other crops that must stand out during the winter, are greatly benefited by a blanket of snow, which gives all needed protection and still is not apt to injure by smothering or otherwise, unless the snow banks are very deep and the ground beneath free from frost.



STRAWBERRY CULTURE AND THE BEST VARIETIES

I am often asked as to the best methods of strawberry culture. These numerous questions indicate the great mass of people who are interested in this the most marvelous fruit which has ever been produced. There is no berry known to man of such insignificant size of plant which can yield such quantities of beautiful, fragrant and delicious fruits. Then when we consider its hardiness, withstanding the frosts of almost an arctic winter as well as the heat of the tropics, we begin to realize what a miracle the strawberry is. It succeeds best, how-

American Fruit Grower

ever, midway north where the winters are not far below zero.

The preparation and character of soil is more important in strawberry growing than in almost any other kind of fruit growing. The soil must be thoroughly subdued and well enriched and yet I have seen it producing well on impoverished soil, but you cannot expect a full crop unless you give the plants plenty of food. I prefer a sandy loam, that is a mixture of sand and clay, for the strawberry and have discovered that it does best on soil that has been occupied the previous season by potatoes, beans, corn or some other hoed crop. I try to avoid planting on freshly turned sod ground on account of white grub.

The most important question is whether to follow the hill system of strawberry growing, which consists of destroying all runners except enough to occupy the space around the plant to the extent of a foot space. The matted row system consists of setting the plants in rows 3½ feet apart and letting the runners take root wherever they may. This last is the popular and easy method of producing but it does not yield the quality of fruit or the size fruit that is produced through hill culture, but hill culture requires almost double the work and is not often advised except for fancy garden culture.

Do not plant the strawberry unless you have time to hoe and cultivate frequently. You cannot grow strawberries to a profitable degree and weeds and grass at the same time, and yet I have picked strawberries growing in grass as high as my knees.

The winter protection given strawberry plants is not for the purpose of keeping the plants warm but rather to keep the plants cold, that is, to hold the frost in the ground and to prevent freezing and thawing, which has an inclination to heave the plants and break off the roots and destroy the prospect of a full crop the following season.

Here is a vital point in strawberry growing which I seldom hear touched upon, and that is the almost certainty of getting weed seeds and grass seeds established in the strawberry bed which you have laboriously cultivated for four months, these pestilential weeds coming in the manure applied to the strawberries as a mulch. Manure is the material used since it is ordinarily the only one available. Rye, wheat or oat straw is almost as bad because it always contains some grass, which when it sprouts does as much damage as weeds and is as hard to eradicate. What, then, shall we use for a mulch? Corn fodder and bean vines contain no seeds, but all of the grain and weed seeds that are taken into the stomachs of horses or cows pass through the animals without injury, therefore I often see well-prepared soil thoroughly seeded down to grass seed and seeds of weeds that have passed through the bodies of animals without being digested.

The strawberry needs more water than most plants, therefore if you are so situated that you can turn a stream of water through your strawberry bed or plantation, you can by this means nearly double your crop. Some gardeners have an irrigation system of iron pipes in which water is distributed, but this is expensive and is seldom practiced, but where one has time and money it may be profitable.

Never cultivate deeply close to strawberry plants, for if you do you will cut off a large portion of the roots and will greatly lessen your crop. For this reason many cultivators have advised that the strawberry be not cultivated or hoed previous to the production of a crop after the spring season opens, but I would not advise such a course as this but do advise very shallow culture.

The largest single shipment of ripe olives ever made from California was recently sent east by the Mt. Ida Olive Co., of Oroville, and consisted of six carloads.

This Expert Lives in Your County



INTENSIVELY trained by our educational course, all representatives of the Milwaukee Air Power Pump Co. are experts, well able to install running water and electric lights.

Our representative in your county is trained to make one engine supply water, and at the same time run the electric lighting plant.

He is trained to pipe water directly from the well and cistern to your farmhouse, barn, lawn, watering trough, and dairy, and to replace the old kerosene lamp with electric lights. No storage tank or stale water.

He is trained to put hot or cold running water in your kitchen and bathroom; fresh drinking water in your house; pure water for your stock; water in your barn for your cows; electric lights anywhere on the place.

He has been trained. And it costs nothing to consult him. If, after questioning him and hearing his expert advice, you want the Milwaukee water or light system, he'll do the job right and thereby increase your farm profits.

We have a representative in your county. If you don't know him, write us.

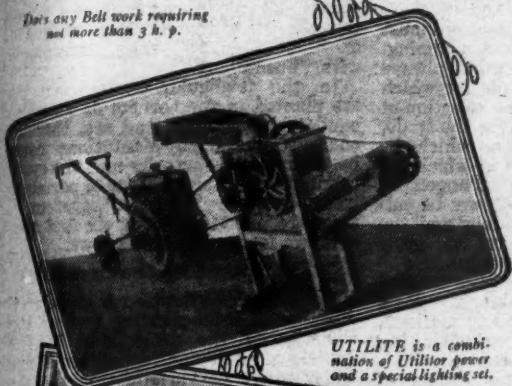
MILWAUKEE AIR POWER PUMP CO., 902 3rd St., Milwaukee, Wis.



MIDWEST

THE NEW TYPE OF **UTILITOR** DEPENDABLE POWER

Does any Belt work requiring not more than 3 h. p.



UTILITE is a combination of Utilitor power and a special lighting set.



Cultivates berries, vegetables and fruit faster and better than a horse.



Plowing Is the Real Proof of the Utilitor's Ability

Plowing proves the real value of automotive equipment on the farm. It is plowing, above all else, that pulls the very "heart" out of machinery—and leaves you with either a good or a bad investment.

Thousands of farmers *know* that the Utilitor will *plow*. It will plow more satisfactorily, faster and better than a horse. And last but not least, it will plow at *less expense* than a horse or mule.

The Utilitor's plowing stamina is not mere theory. This machine would never carry the "Dependable Power" trade mark unless it *could* plow.

Tests have repeatedly been made

with the Utilitor—tests more difficult than ordinary usage would ever exact. And yet, on every occasion—in sod, clay, sand or loose dirt—this powerful, eager unit has met satisfactorily every demand placed upon it.

Each Utilitor sold is backed by the unqualified guarantee that it *will* plow.

Call on your nearest Utilitor dealer—he will gladly give you a wonderful plowing demonstration.

You will, of course, admit that if the Utilitor will plow it can easily do any other work for which it is designed.

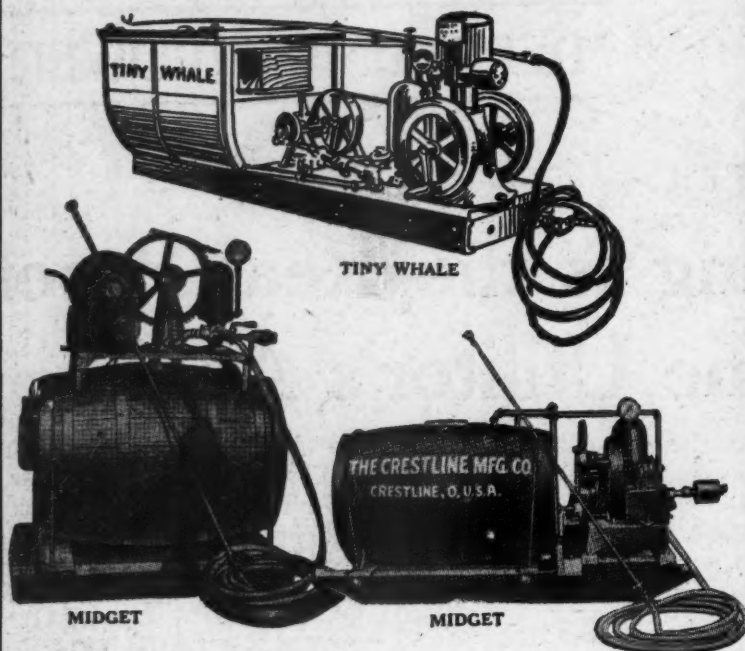
—and it will plow.

MIDWEST ENGINE COMPANY, Indianapolis, U. S. A.

This picture illustrates two uses for the Utilitor, plowing and discing. For the small farm where work is intensively done the Utilitor is a necessity today.



MIDGET WHALE SPRAYERS AND BIG PROFITS



FIVE POINTS OF SUPERIORITY



OF THE

MIDGET—WHALE—POWER—SPRAYERS

THE Midget and Tiny Whale Sprayer after extensive and exhaustive tests is now offered to the fruit and vegetable grower throughout the world. They are well balanced throughout and meet the needs of the large and small fruit grower alike. The Midget and Tiny Whale Sprayers are so constructed that power is transmitted to pumps by cut gears which operate the pumps at 92 revolutions per minute. These machines are guaranteed to maintain 150-pound pressure. The engine is air cooled and equipped with automatic starter.

Write for free booklet immediately.

CRESTLINE MFG. CO.

DEPT. K

CRESTLINE, OHIO, U. S. A.

English Orchard Methods

By Jack Brooks, England

SOME very creditable efforts have been made by the leaders of the fruit growing industry in Britain, since fruit prices began to climb upwards, to assist the growers in obtaining the best from their orchards and a subsequently larger margin of profit for their wares. Special instruction has been issued the growers in the planning and planting of the orchard of "top fruit," viz.: apples, pears, plums and cherries.

As is pointed out to the growers by their own co-operative leaders, the ultimate financial success of a plantation must depend largely on judicious planning. There must be borne in mind always the purpose or class of trade for which the fruit is to be grown; the selection of suitable varieties, not only for the trade, but for the particular land on which the trees will grow; the manner in which the trees are to be trained, the arrangement of the plantation so that it may be cultivated with economy in labor and the trees have sufficient room to grow normally without overcrowding.

And then must be studied the amount of working capital available, the local labor supply, the proximity to markets, the road and rail transport facilities, the local climatic conditions, the character of the soil and the system of "under cropping," which it is proposed to carry out. The conscientious fruit grower in Britain studies all these points before laying out his new plantations. And he cultivates the habit of looking far ahead—a necessary one. "Top" fruit orchards over here do not generally reach their prime until about 30 years after planting.

Trees Related to Soils

The British fruit grower in selecting his tree shape consults the soil and land situation. "Bush" apples are not suitable for heavy clay soils because the fibrous root systems of this type of stocks do not develop as rapidly as the branch system, and a large number of the trees blow over. Such land, too, is usually difficult to keep cultivated, and so the "Standard" tree is the most popular on light friable land. Where a quick return of fruit is not required these trees are planted widely apart. They do not shade the land until nearly 20 years old. If a quick fruit return is desired, the "Bush" or "Cordon" tree is then trained. It is the usual practice to lay the land down to grass for close grazing with sheep.

The grower here trains his commercially grown "top fruit" in four shapes—"Standard," "Half-standard," "Bush" and "Cordon," each shape being suitable for a different purpose. The latter are always grown on cultivated land and supported by a system of wire work, to which bamboo rods are attached, the fruit being produced from spurs arising from the main stem. Apples worked on "paradise" stocks and pears on "quince" stocks are the only kinds of fruit trained here in this manner for commercial purposes. The system is the most intensive form of outdoor fruit culture practised, and, in view of the large number of trees planted in the acre, should only be adopted if sufficient labor is available. The fruit obtained from "Cordons" is of the highest quality and therefore requires packing and grading in the very best possible manner. This fruit is usually sold through special salesmen, who specialize in this class of produce.

The four systems of planting "top fruit" trees in vogue here are: Square, Quincunx, Triangular, Cordon. For the first named the land is marked out in a series of squares and the permanent trees are planted in the corners of each square. If "fillers" or "soft fruit," or both, are to be interplanted among permanent trees, then each of these large squares is subdivided into four, eight, 16 or 32 smaller squares. As soon as the permanent trees or "fillers" require more space the "small" fruits are grubbed. Later the alternate "fillers" themselves are removed, thus leaving a tree in the center of each square formed by the permanent trees. When the permanent trees are nearly full grown, the remaining "fillers" are grubbed. This is the most remunerative method

of raising a permanent plantation, as practised here. In practice the thinning is sometimes delayed too long. If freely growing, healthy trees, planted too close, are very severely pruned to prevent overcrowding, there is a greatly diminished annual fruit yield.

The "Quincunx" system of planting is similar to the "Square," except that a tree is planted in the center of each square, and being usually "fillers" is not always of the best variety. This system is most in vogue where a plantation consists of two kinds of "standard" or "half-standard" trees, interplanted with "bush-fillers."

In the triangular system the trees are planted in the corners of a series of equilateral triangles, and are, therefore, equi-distant. Such plantations cannot be thinned satisfactorily and the system is only used for plantations of permanent trees. In the "Cordon" system the trees are planted in rows six feet apart, and two feet apart in the rows.

Interplanting the Orchard

Considerable attention is given to the question of inter-planting two or three varieties of the same kind of fruit. Judicious inter-planting allows a much wider range of varieties for the same distance apart, but the number selected is only sufficient to give a succession of crops throughout the season so that the markets may be supplied continuously.

Chestnut spile fencing, five feet high, is used to protect the British plantations. The base of the stakes are dipped in creosote and are driven into the ground not more than half a foot apart. Wire netting is also placed around each tree for standards or half-standards, or else completely around the plantation for bush and cordons, to exclude hares and rabbits.

Among the points that the fruit organizations wish to impress on the growers here is that no trees must be planted after their growth has commenced, that only the best trees should be purchased, that trees should not be planted earlier than November, that this month and December are usually suitable for planting if close watch is kept for signs of "frost lift," when the soil must be thoroughly firmed by treading. If planting cannot be done in the present season, the growers are advised to postpone operations until February or March.

FROM AN ENGLISH SUBSCRIBER

The editor of the AMERICAN FRUIT GROWER receives many interesting letters from its friends and subscribers here in the United States, and some from foreign countries. Just a few days ago we received a letter from W. I. Woolley, a subscriber in England, who in renewing his subscription, sends us a photo of his orchard and apiary, and writes this bit of information about his place:

"Just a line to thank you for the high state of your AMERICAN FRUIT GROWER. Although living in England, I find a lot of benefit from reading the splendid articles. The December number arrived on Christmas day, and being a 'home bird' I started reading just after dinner and sat by the fire enjoying it until 10 o'clock, reading everything from the front cover to the back.

"I have only five acres of fruit, but I keep bees and poultry under the fruit trees and sell a lot of the honey and eggs at my own shop in the town. I am always glad to receive the AMERICAN FRUIT GROWER for the benefit I receive, although this year I have to pay extra for it on account of the rate of exchange being against Old England, the land of the brave and free. In this case I have had to pay nearly another dollar, for the exchange rate of money for England being lower than in America."

We are glad, not only to have this renewal of subscription from Mr. Woolley, but also for the short interesting letter about his orchard. We will be pleased to hear from other subscribers in England or other foreign lands.



"BEST IN THE LONG RUN"

The Real Meaning of "Best in the Long Run"

"BEST IN THE LONG RUN" is a slogan that is almost as old as the history of tires. It grew out of the performance of Goodrich Tires on bicycles, and it grew into the *dependability* of Goodrich rubber products of all kinds.

It is not just a catch phrase. It is a plain statement of fact.

It is really a mirroring of the confidence placed in Goodrich products by their users. In five words it crystallizes

the ideals, the policies, the principles of Goodrich.

It means "the long run" of good faith and good will—the steady building up of a confidence in the minds of the users, *which is the greatest asset a manufacturer can have.*

That is how Goodrich translates this slogan into terms of longest average wear, utmost dependability and known quality in all kinds of rubber products.

THE B. F. GOODRICH RUBBER COMPANY, AKRON, OHIO

Goodrich Tires

"Best in the Long Run"



National Ship by Truck— Good Roads Week May 17-22

THE first wide-spread demonstration designed to enlist all the forces connected or dependent upon short-haul transportation, will be held throughout the United States, May 17-22—and known as National Ship by Truck—Good Roads Week.

It has the support of great national associations vitally concerned with transportation. Leaders in the nation's business, in the financial world and in government circles endorse the Ship by Truck—Good Roads movement and this great demonstration of its importance.

MR. WILLIAM G. McADOO states:

"I heartily approve of every measure or effort to promote good roads throughout the United States and to enlarge the usefulness of the motor truck in order to increase needed transportation facilities in the country. This is highly important to business and industry of all kinds and especially to the farmers of the United States. The country has outgrown our railroad facilities and it will be a long time before the railroads can be brought up to the needs of the country. The most practicable, as well as the most immediate, relief that can be provided is through good roads and the motor truck."

Wm G. McAdoo

Senator CAPPER, of Kansas, says:

"One of the greatest developments of the next twenty-five years will be the motor truck on the farm. I am interested in it because it relates to the development of the great West and the great western industry, agriculture. The day of the power farmer is at hand. It is to him that we turn in answer to the world's cry for greater production. He alone can supply us with the necessities of life and assure our essential national integrity, but he must be given tools worthy of his task. The motor truck, because of its adaptability, flexibility and its endurance, is one of the chief requisites in the scheme of power farming."

Arthur Capper

Senator TOWNSEND, of Michigan, says:

"The remarkable growth of motor transportation in the past few years, and its still more tremendous potentiality in the future, have brought us to a point where past procedure is no longer sufficient. Large sums will inevitably be expended on our highways to make them useful for longer periods and to decrease transportation costs. We need a broadened policy which will concentrate Government funds on national highways, releasing State and County funds for use on State and County roads. Nothing could be more valuable than a national discussion of this question, such as that proposed during National Ship by Truck—Good Roads Week, May 17th to 22nd."

Charles Townsend

T. C. ATKESON, National Grange, says:

"The National Grange believes that the time has come when all National Government Highway activities should be unified in a single administrative department, and that National Highway law should be worked out which will be for the welfare of the whole country and distribute the expense of highway construction equitably between the beneficiaries. I heartily approve the general idea involved in the Ship by Truck Week and the study and attention that will thereby be directed to the problems of highways, transportation and distribution."

T. C. Atkeson

SAMUEL REA, President of the Pennsylvania Railroad Company, says:

"I am glad to take this opportunity to express my view that it is most important, in the development of the motor truck for transportation purposes, that there should be co-operation with the rail carriers, rather than competition. Without doubt, there is a field where movement by rail carrier is not economical, and where the service would better be performed by motor trucks, but on the other hand any attempt to compete in the longer hauls with rail carriers under normal conditions is, in my judgment, uneconomic and unwise.

"By conferences the interests of both parties can be studied and preserved and the extension of the motor truck to develop territory now served by rail, or for short-haul and intra-city movements can, I believe, proceed with advantage both to the rail carriers and the motor truck interests; while, on the other hand, if the energies of the motor truck interests are devoted to the placing of competing lines to take traffic for the longer hauls which has been developed by the rail carriers, it would result in no real increase in facilities, but in competition which would only be harmful to both interests."

Samuel Rea

CHARLES H. SABIN, President, Guaranty Trust Company, N. Y., says:

"It appears most timely to me that this 'Ship by Truck—Good Roads Week' should come just at this time.

"With ordinary transportation mediums seriously congested, a greater use of trucks will improve considerably the distribution of the country's necessities. Good roads are, of course, vitally necessary to truck activity on an efficient basis. and the two movements naturally interlock.

"I wish you and your associates every success in this good work for the nation."

Charles H. Sabin

It is the time for getting together in recognition of a great new industry that has grown up before our eyes—Motor Transport. It is occasion for congratulation for the great work already accomplished for Good Roads which has broadened the motor truck's practicability.

The motor truck takes its place today as the vital factor of short haul transportation; as much part of our economic, commercial and industrial scheme as are the railroad and shipping industries in long haul transportation.

It has been a power in the development of our big manufacturing, wholesaling and retailing institutions. Farm territory, heretofore isolated, is now within easy range of a market, because of the motor truck and good roads.

Nearly every long haul shipment requires a short haul at each end.

If you regard the railroads as the long arm of commerce, you must reckon the motor truck as the fingers which reach in, here, there and everywhere, to pick up the load or place it at its destination.

The purpose of National Ship by Truck—Good Roads Week is to present to the public the necessity of a national highway system, and to visualize the achievements already attained in the motor trucking industry.

The new day is here—not only of a broader commercial greatness but a day of better national understanding which comes through swift, efficient transportation.

H. B. Sivertone
President Firestone Tire & Rubber Co.

Congressman VAILE, Chairman, Committee on Expenditures in the Treasury Department, says:

"The time is as ripe for the formation of a definite national highway policy as for a definite Army or Navy policy or a definite foreign relations policy.

"The Townsend bill properly adjusted to the needs of both the public-land States and the private-land States presents the basis of a sound, constructive and permanent national policy, insuring the maximum of advantage to the Nation and to the several States.

"Certainly great benefit should be derived from national discussion of the whole question of National Highways during the National Ship-By-Truck—Good Roads Week."

William N. Vaile

MR. BARUCH's statement:

"Civilization means communication. It means communication of thought, of persons and of things. We need the telephone, the telegraph, the wireless and the mails to forward our written words; we need the means to bring our people together, so their spiritual intercourse may be established by contact and by word of mouth, and we need the avenues of transportation so that commodities in one section of America may be supplied to those which require them. Roads were the first method whereby communication was established. It is the cheapest method. Whenever we have a thing that is good and cheap, the next step to take is to make it better and cheaper.

"America should have good roads; she should have better roads, and, finally, she should have the best roads in the world. Every ounce of effort and every dollar of money spent to that end will return themselves a thousand-fold. Good roads quicken and make more full the national life. The beneficial effects of road improvement stretch to every point of our economic structure. We ought to spend money and thought and work on building up a vast system of roadways that shall eventually make every door of every house in every community easily accessible."

R. M. Baruch

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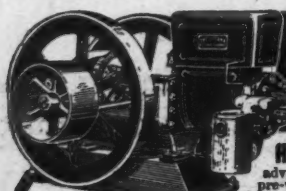
J. F. Soley & Co., Baltimore, Md., says: "For spinach, green beans, parsnips and turnips, we use Universal Packages exclusively. For peaches and apples decidedly the best packages we have seen. We find the trade prefers them to any other package."

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Questions About Nuts

By W. C. Deming, Connecticut

There is a widespread and rapidly increasing amount of interest in nut growing, as knowledge is gained of the food value of nuts, and the profits of growing them. Nut trees of some kind are adapted to almost every soil, climate and location in the country, and many kinds are worthy of commercial cultivation. In this department will be found much helpful information about nut culture. Questions from subscribers are desired upon any topic relating to nut growing. Those questions of general interest will be answered through these columns, and others will be answered by letter. Address, W. C. Deming, AMERICAN FRUIT GROWER, Chicago, Ill.

Nut Trees Along Creeks and Roads

Q.—I have a half section of land near Conway Springs, Kansas, on which there is a creek and a couple of draws, a railroad and about two miles of public road around it. I want to get nut trees growing in all of the waste places along the creeks, the public road, the railroad and the line fences.

By planting the nut trees along the line fences, etc., just inside far enough to have them on my own land, and the other fellow will furnish half the land to grow it on. Black walnuts are native here along the streams and I know of two pecans here in this vicinity. I have a bushel of Oklahoma pecans and a bushel of black walnuts bedded down, fresh from the trees, which I am going to plant as soon as I can get to it. I want to plant these nuts largely where the trees are to grow and then graft them to named varieties. I have been in the nursery business, but never had much experience with budding nut trees. I experimented with ring budding down in Florida on pecans some years ago, with only partial success.

I want to get all of the latest and best information that can be had about nut growing. I want the best budded varieties adapted to this section, because I haven't time to wait for seedlings to come into bearing, and because seedlings of any kind are not dependable. I intend to get a few budded trees and set out, from which to cut buds. Where can I get the information about the latest and best methods of budding nut trees? How can I determine about varieties to propagate?

I think about the only difficulty I will have will be from sun scald, but by heading them low that difficulty can be overcome. Being a pioneer in this section in this business, I am meeting with ridicule, of course, but I do not care for that. I want to make as few mistakes as possible and realize that I can be successful with the right varieties and the right methods of propagation.—S. L. B., Kansas.

A.—It is a very great pleasure to me to get a letter like yours showing so sound and complete an understanding of the principles and practice of nut growing. You have covered the ground so completely and accurately that it only remains for me to answer your questions about methods of propagating and varieties. That you have been a nurseryman does not detract in the least from the credit due you but rather the opposite, for of all classes of men who ought to show interest and progressive in nut culture the nurserymen have been, as a class, the most backward. But it is a pleasure to add that to a few nurserymen who have seen and grasped the opportunities in nut culture a great part of its progress is due.

I wish to commend heartily your plan to set nut trees along the creeks, public roads, the railroad and the line fences and your methods for going about it. I would suggest, however, that it might be better to leave your nuts bedded down for the winter and plant them in the spring. If planted now they are liable to be destroyed by squirrels, rats or mice, or to be washed out or buried.

The only way to learn quickly the art of budding and grafting nut trees is to go to one of the nurseries where it is being done on a large scale and practice it under the eye of an expert. The nurserymen whose names I have marked on the list mailed to you can teach this art and, I believe, will be very glad to help you. They can also give you all information about northern varieties, which, I think, will be the only ones for you to grow.

Write also to Mr. A. S. Perry, Sec'y National Nut Growers' Association, Cuthbert, Ga., who can give you the names of some of the many expert propagators of the southern pecan, some of whom are probably not far from you.

Possibly N. O. Booth, Horticulturist, Stillwell, Ok., might help you. C. Edwards, Dallas, Texas, is one of the greatest authorities on propagating pecan. Subscribe to the American Fruit Journal, official organ of both National and Northern Association, and you will get monthly articles of great value and a list of available publications on nut culture.

Sunscauld of the trunks can be prevented, of course, by protecting them some way.

You show the true pioneer spirit not minding ridicule. It is just what the present successful pecan grower of the South had to endure in the pioneer days.

I trust that my suggestions may help you and that you will call upon me some time I can be helpful.

Pecans in Pennsylvania

Q.—Can the pecan be grown in the latitude of Philadelphia, and what conditions of soil are required?—A. G. M., Pennsylvania.

A.—It is safe to say that the northern pecan cannot be grown satisfactorily in the latitude of Philadelphia. The generally winterkill and if they did it is quite certain that the growing season would not be long enough, as a rule, to mature the nuts.

The pecan tree, however, is native to the states bordering on the Mississippi river and its tributaries as far north as Sabula, Iowa, and to those trees from Kentucky northward the "northern" or "Indiana" pecan has been given.

The best of these northern pecans are fully equal to the southern pecans, everything except size of nut and they have been selected with great care and propagated in nurseries and these very trees can now be had in quantity. It is reasonable to believe that the northern pecan will thrive under our soils and conditions approximately similar to those in which it is native. It has been found to be the case when removed from, and considerably north than, the native range of the tree. It has had favorable tests as to its in many widely separated localities in the United States and Canada. Unfortunately, this tree has been under test in any locality enough to determine its bearing performance. It is as certain as anything can be that in the localities where the northern pecan is native the formance of the grafted trees will be good as that of the parent tree, how far away from their home it is counted on is as yet unknown. Therefore pecan growing near Philadelphia and in New Jersey has still something of the experimental element in it but the opinion of those persons best qualified to judge in favor of success.

In regard to soils the pecan grows over so large a territory that it is so in a great variety of soils, that we need not bother ourselves with the type of soil so long as certain mental qualifications are secured, are that the soil shall be rich, or that there is plenty of water, or that too much—pecans will stand a but not constant wet feet—and that is no impervious hardpan within four feet of the surface. The of most soils can be considerably by the hand of man.

The U. S. Dept. of Agriculture has a bulletin on the pecan and I advise you to read this and other literature on the subject, such as the of the Northern Nut Growers' Association and the American Nut Journal, and do much planting.



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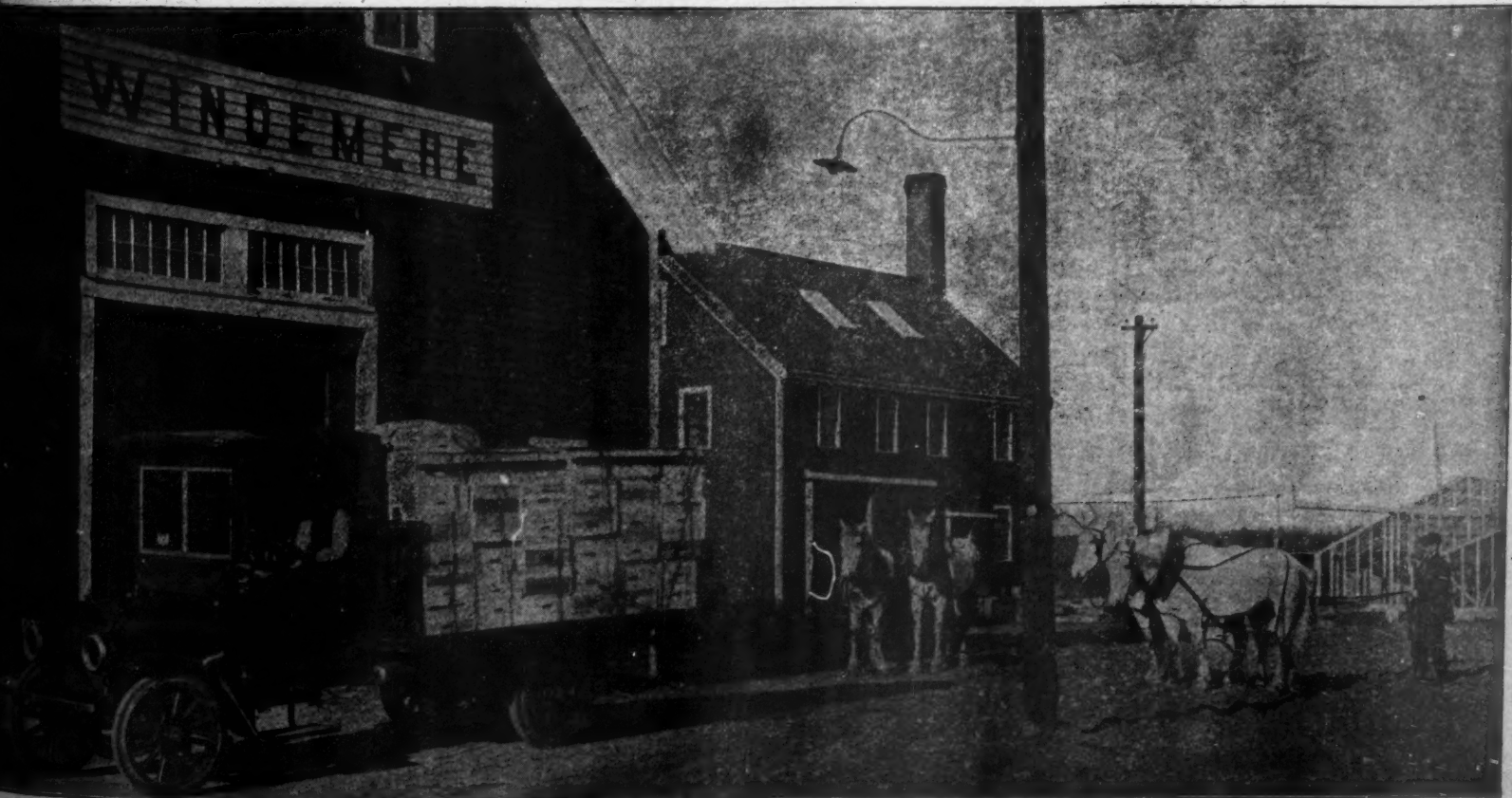
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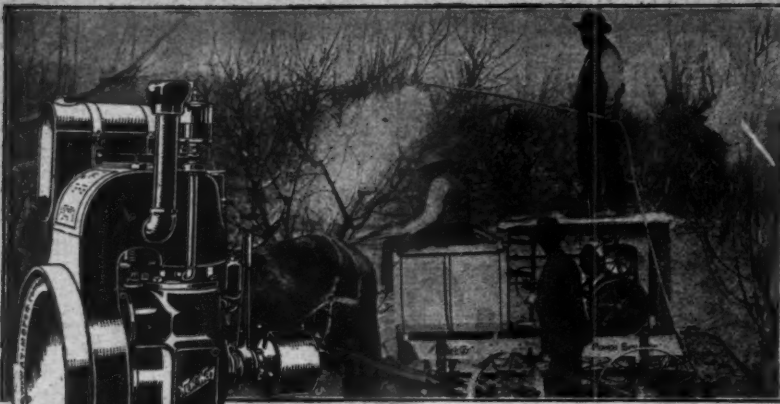
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Since power sprayers were known, the air-cooled "New-Way" has been incomparably the most dependable engine for their operation. Thousands of better fruit growers know this. Now comes the final "New-Way," an entirely new, "New-Way" engine, marvelous in operation.

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Australian Fruit Growers

By R. E. Bordman, Australia

THERE is in Australia a very important body of men known as the Pomological Committee of Australia. This committee meets annually in the several state capitals. The next pomological conference will be held at Hobart, Tasmania, in April next, in conjunction with the big Australasian fruit show. The objects of the committee are: 1. To standardize the names of varieties of fruits grown in Australia. 2. To generally deal with matters having reference to the nomenclature of fruits. 3. To discover and adjudicate upon seedlings, recommending for commercial use such as are of especial merit.

The committee consists of the government horticultural expert in each state, practical fruit growers and fruit tree nurserymen. The secretary is Mr. E. E. Pescott, Government Pomologist, Department of Agriculture, Melbourne, Australia.

In regard to fruit nomenclature, the following rules guide the committee: 1. That the names shall be as simple as possible. 2. That, wherever possible, one word only should be used as a name. 3. Duplication of names, or names possessing strong similarity is to be avoided. 4. That such words as "seedling" and "hybrid" be abolished from names as far as possible. 5. That priority of name, or of origin, shall have preference wherever possible.

The pomological committee has done much valuable work in simplifying names and discovering seedlings of merit, thus demonstrating its usefulness and showing the scope for its further activities.

Some Authorized Names

Bearing in mind the above-mentioned five points, it has been decided that the apple variety, known in America as New York Pippin, Ortle and Cleopatra, should rightly be known as Cleopatra, and that is the name by which it will be in future known in Australia.

Another variety which has several names is Fameuse, also known as Fanny, Apple of Snow, Pomme de Neige, Lady in Snow, Snowy. Quite properly it is to be known as Fameuse, in honor of its Canadian birth.

Much wordy warfare raged around that excellent variety, Dunn's Seedling, known also as Munroe's Favorite. Victorians were sure their man Munroe (no relation to the U. S. A. doctrine) was the first in the field; the South Australians flaunted the banner of Dunn, demonstrating his prior claim to the title. The Munroe's took to trench warfare, and were digging in, when Dunn opened a terrific bombardment of books and documents, and then charged, routing the enemy. During an armistice, it was suggested that there be a combination and that the apple be known as Dunn's Favorite. The committee's aversion to compound names was overruled in this instance; the compromise was accepted. To the surprise of all, when the committee met the following year, the Munroe champions voluntarily surrendered, without even a shot from Dunn. The "favorite" was discarded and the apple is now known—and rightly, too—as Dunn's.

The old favorite apple—Five Crown, should, in the opinion of the committee, be known as London Pippin, but somehow the old name sticks, if only because of the five "crowns," which are the distinguishing features of this good apple. This tree resists American blight or woolly aphid.

Tasmania bids fair to become one of our most popular apples. It is widely known as Democrat, but as there is already two other "Democrats" (apples, not political parties) in the U. S. A., the Australian Pomological Committee has decided in favor of Tasmania—the apple being a seedling raised in Southern Tasmania. The fruit is of medium size, late dessert; brilliant red in color, of fine flavor, and stores remarkably well.

King of Pippins is the name recommended in place of the Pippins, Golden Reinette, Adams Pearmain, and (as it is called in Tasmania) Summer Pearmain. We find, also, that the well-known Reinette de Canada has been for a long time quite erroneously known

in Tasmania as Blenheim Orange. Similarly, the variety Scarlet Nonpareil has been wrongly termed in the island state as Scarlet Pearmain.

Jonathan Is Popular

Australia is indebted to America for our prime favorite apple Jonathan. It is justly popular both with growers and the public. The trees bear regularly and well, the fruit stores and ships well, and at all times there is a public demand for Jonathan. His relation—King David—is not so popular, and if it were worth anything in this democratic country, the preference would be, King Jonathan and plain David.

Delicious is true to name here, and the variety is now being largely planted because the public has acquired a liking for the apple and asks (like Oliver Twist) for "more." Another American variety, Stayman Winesap, does well with us; this would come into popular favor if some of our enterprising growers were to plant sufficient trees of the variety.

Australian varieties, approved by the pomological committee and tested by practical experience, which should be very suitable under American conditions, include Shorland Queen, Stewart, Glogyle (Red Rome Beauty), Yapeen, and others. I will send further details if any readers of the AMERICAN FRUIT GROWER are interested.

Bartlett Pear Is Williams

There is one decision of the Australian Pomological Committee with which Americans will not agree, and which is seriously challenged by many horticulturists in Australia. I refer to the Bartlett pear, which the Australian Pomological Committee has decided (doubtless with excellent reasons) shall be known as Williams. In South Australia this pear is known as Duchesne, in Australian Pomological Committee, and in Western Australia as Bartlett, in Victoria as Williams Bon Cretien.

The committee has deleted Bon Cretien and decided the pear shall be called "Williams." Many think that as Bartlett is the name by which it is most generally known in America, and that also this name is popular in many parts of Australia, and, further, that it is widely advertised to the public as Bartlett, this name should be retained, despite the earlier claim of Williams to the title.

The matter will be reviewed at the next meeting of the pomological committee at Hobart, in April next. The committee has under observation several promising seedlings, which are being tested, information concerning which will be released very shortly.

AUSTRALIAN SOLDIERS TO GROW FRUIT

Australia is conducting a very energetic program in the settlement of her returned soldiers in communities where they may engage in fruit growing under competent instruction. In one such settlement, 350 returned soldiers are to be established in prime growing. Two hundred prune orchards of ten acres each have already been established and as the new arises, modern evaporating plants will be installed for the grading, curing and packing of the prune crops. Although Australia has been a heavy producer of many kinds of fruits, the prunes consumed in that country have been imported, but it is quite probable that when the orchards that are to be cared for by her ex-soldiers come into bearing, Australia will have a large tonnage of prunes for export.

The citrus-producing sections of the United States are not alone in the war against that devastating disease, citrus canker. The South African government already has expended more than a quarter million dollars in an effort to eradicate the disease. According to the "South African Fruit Grower," during the month of October there were fourteen prosecutions of those who had disregarded the citrus canker regulations.

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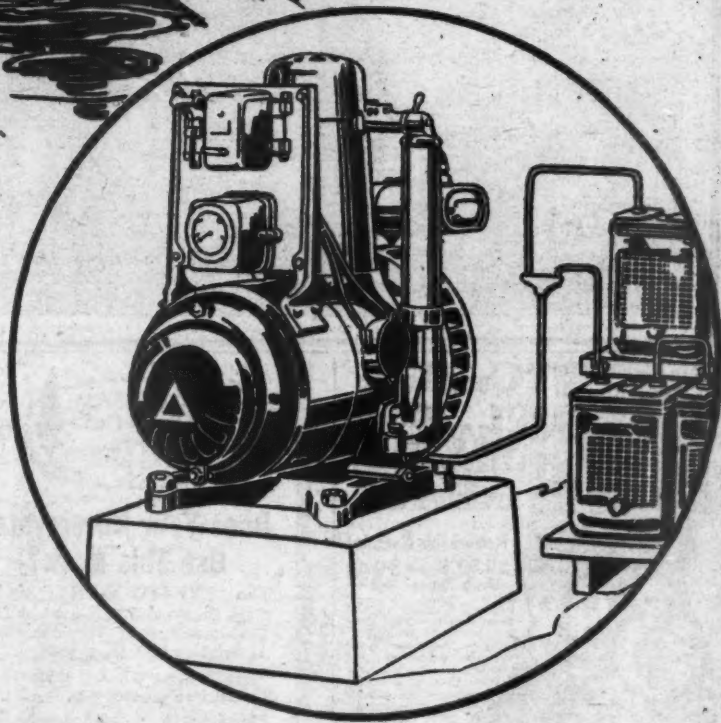
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Soil Conditions for Apples

(Continued from page 7)

beans. Of these, cover crops seem to give the best results. Those who practice sod-culture use the grass grown as a mulch, cut it for hay or pasture cattle on it. In this case, the best conditions are attained when the grass is used as a mulch. The tillage system is best suited to fairly level regions, or sections when the altitudes are not very steep. The sod mulch is the only successful method in hilly sections where the land would be badly washed if tilled year after year.

Large amounts of gravel or rock make it a little inconvenient in the regular orchard work, but on steep hill sides, it will check washing. On the Blue Ridge mountains of about 1,800 feet above sea level, with a peculiar type of soil, very rocky and often steep, is where the finest Albemarle Pippin grows, that is known so well in the European market, and is better than any other variety grown in America. Rocks or gravel in the soil tend to keep it open and porous, so that the water drains through readily; gravel soil is often a warm soil.

Intercrops in Orchards

There is no question but that thorough cultivation of apple orchards is essential in order to secure the greatest returns and there is an advantage by the elimination of dangers of fire and mice. It is both practicable and profitable to grow inter-cultured crops, such as potatoes, between the rows of apple trees for the first eight or ten years after planting since the cultivation and fertilization given these crops can be made to secure a sufficient amount of each for proper development of the young trees.

On newly cleared timber land and sod land that has been in grass for some time, it is better if a cultivated crop be grown for one year before the orchard is planted. The ground should be put in as good condition as possible before the trees are set to insure the best growth. It is important to plow deep because it will be impossible to work the ground near the tree again.

As the trees increase in size, more space for clean tillage should be left at each row and special care should be taken that the young trees are not injured by horses or tools during the regulation orchard work. Whether the orchard is to be cultivated or kept in grass and mulch is to be determined largely by local conditions. On hilly land, where washing occurs frequently, tillage may be impracticable. The advantages of the mulch system are that the trees begin bearing at an earlier age, the fruit is more highly colored and there is less erosion than under cultivation.

Securing Humus Supply

If an apple orchard is to be grown in grass, a mulch of coarse manure, or some material which will hold moisture, should be placed around the trees as soon as planted and more material should be added each year, spreading further out and extending a little beyond the spread of the branches. The grass between the rows of trees should be cut once or twice each season and placed about the trees or left to decay where it falls. This increases the supply of humus, which means more plant food and a more uniform water content of the soil. In case of cultivated orchard, crops may be grown and renewed for a limited time, but to avoid depleting the supply of humus it is necessary to plow under clover, soybeans, cowpeas, rye, vetch, or other plants.

Clean cultivation of orchards without the use of cover crops, and allowing trees to stand in grass without mulching, are equally bad practices. The plowing under a green manure crop is the best and most economical way to replenish the organic matter that is destroyed during the season by cultivation and is very important for two reasons: first, the soil that is well supplied with humus conserves moisture better, and, second (and most important), the organic matter in the soil is the sole source of nitrogen for the trees, and without nitrogen there can be no growth of fruit or trees.

A leguminous plant contains from two to three times as much nitrogen

American Fruit Grower

as a non-leguminous plant. The general effect of nitrogen is to increase the vigor of the trees, which will show a heavier, darker foliage, a thriftier wood growth and the development of more fruit buds. Plenty of nitrogen enables the tree to carry and mature more fruit and the apples are generally a larger size than where this element is lacking. We find by experiments that nitrogen is the chief factor in maintaining the fertility of orchard soils.

Question of Fertilization

The question that demands the attention of the orchardist today is fertilization. The United States Department of Agriculture and our experiment stations have done a great deal along this line and have told us of the increase of fruit yields by the use of nitrate of soda. The large orchardists have learned that it pays well to use available fertilizers on their bearing orchards. It not only produces larger crops, but enables the tree to build up fruit buds at the same time for the crop of the following year, and thus becomes, in many cases, an annual bearer. Bearing a crop alternate years is common among orchards which are not given special care. The well-fed orchard not only sets more fruit, but produces more and larger leaves in which to manufacture the starch necessary for the production of a large crop of fruit.

The amount usually applied to orchards, about 20 years old and in full bearing, is about 12 pounds per tree of a mixture of five pounds of nitrate of soda and five pounds of acid phosphate, applied broadcast early in the spring before plowing the orchard.

Bulletin No. 240 of the Ohio Experiment Station shows some interesting data on three orchard experiments in southern Ohio, and Bulletin No. 161 of West Virginia reports interesting results.

PROTECTING TREES FROM RABBITS

In our February issue we asked our readers for their methods of protecting trees from rabbits, and we have been more than gratified at the liberal response. The letters are still coming, and before the time arrives next fall when trees must be protected from rabbits, these letters will be compiled into a comprehensive article. So many letters have come it has been impossible to acknowledge receipt of each one, but we take this opportunity of expressing our thanks to each one who has submitted his experience.

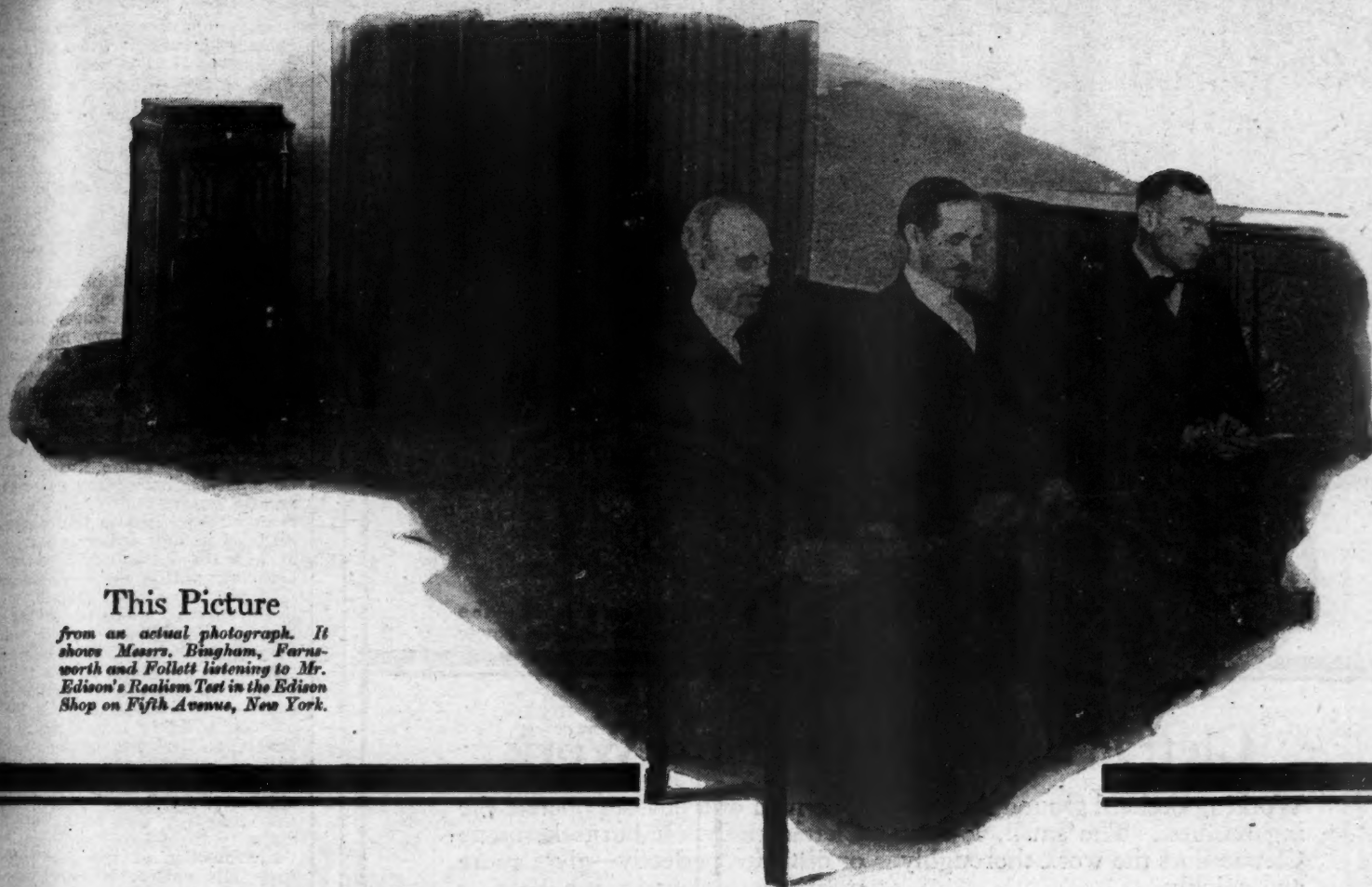
One letter, however, makes mention of a plan for disposing of ground hogs which is worth passing along at this time as localities infested with ground hogs will continue to suffer more or less girdling of trees until rather late in the spring. This letter comes from J. C. Larsen of Indiana, who says:

"Last summer we had some trees injured by ground hogs. This was a new experience. We planted 100 apple trees on this slope, with 100 peach trees for fillers, and in May and June the ground hogs started in on the apple trees. They sure did a good job as far as they went. We lost about 30 trees, as the ground hogs tore off the bark for a foot or more on every tree they worked on.

Gassing the Groundhogs

"I got a quart bottle of formaldehyde and some absorbent cotton and started to work on the animals. They had about 25 or 30 burrows, and at the opening to each burrow I got enough grass and weeds to plug it tight. Then I took a ball of cotton the size of an apple, soaked it with the formaldehyde and poked it down into the hole. Then the grass plug was shoved into the hole so as to leave about a foot of space on top. This was then filled with dirt and tramped tight to keep in the gas. As only two or three of the animals in the orchard succeeded in digging out, we feel that we got nearly all of them."

This sounds like a pretty good plan and could be used on other burrowing rodents besides the ground hog. If you are bothered with such animals give this plan a trial and report your results to us.



This Picture

from an actual photograph. It shows Messrs. Bingham, Farnsworth and Follett listening to Mr. Edison's Realism Test in the Edison Shop on Fifth Avenue, New York.

Famous Psychologists Try the REALISM TEST

—Scientists from American universities find that strange things happen during Mr. Edison's new musical test. Wouldn't you like to try the same test?

THERE'S no woman in this picture. Anybody can see that. Yet these three men declared they heard her. I was there when they made their astounding statements—in the Edison Shop, on Fifth Avenue, New York.

In the rear of this temple of music is a great hall, where there's usually a concert going on. On this particular day its doors were half open. Inside it was half dark—and silent as a church at midnight.

Then a voice floated to my ears from within. It was an exquisite voice, singing just a sweet, simple song. It had that appealing sort of beauty that reaches down inside you and makes you feel lumpy in your throat.

I looked through the doors to see the singer. But I saw no singer at all—just three men seated with their backs toward a phonograph. Their heads were bowed. The magic beauty of the ballad had fixed them with its spell.

The music died away. The three men did not stir. They seemed lost to the world.

Finally one found his voice: "I could have sworn there was a living singer behind me. It was marvelous. Carried me back to a certain summer I spent in my youth."

The second man said: "I felt the presence of a living singer. She was singing—free and unrestrained. The accompaniment

seemed by a separate instrument."

The third then spoke up: "The music filled my mind with thoughts of peace and beauty."

I didn't know what to make of it until some one explained. It was Mr. Edison's famous Realism Test. These three distinguished men of art and science had been trying it on themselves—to see whether listening to the New Edison caused the same emotions as listening to a living singer.

Director Bingham and his colleagues

THE man who first spoke is a famous psychologist. He experiments with music and how it makes us feel and dream. He has found how music can speed you up, or slow you down, why it soothes your nerves, how it takes away that tired feeling. He is Dr. W. V. Bingham, Director of the Department of Applied Psychology, Carnegie Institute of Technology.

One of his colleagues is Professor C. H. Farnsworth, Director of the Department of Music, Teachers College, Columbia University. Professor Farnsworth knows music just as the physician knows medicines. If you want music that cheers, or music that inspires, or music that "peps you up," he'll tell you which music to play.

Wilson-Follett, Esq., looks at music just as do you. He likes good music, and he

knows how he likes it. He is a distinguished author and music critic.

When such famous psychologists feel the presence of a living singer, although she isn't present at all—when such highly critical minds experience strange and vivid sensations through the Realism Test, it is proof that the Realism Test provides a valuable scientific method of testing your capacity to enjoy music.

You can try the same test

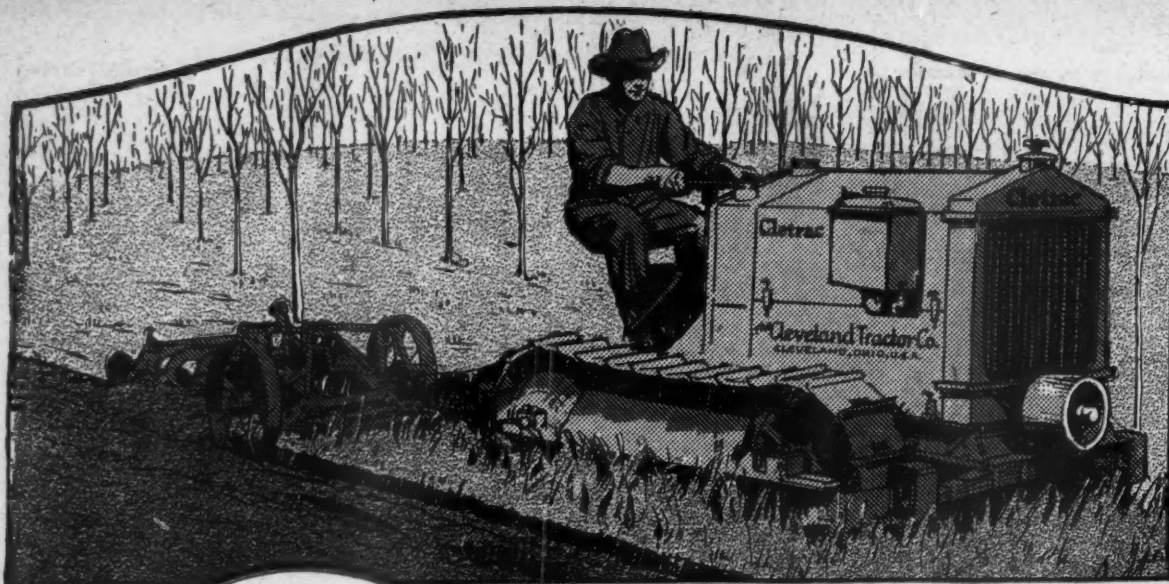
MR. EDISON'S Realism Test is an ideal way for you to judge the New Edison. It tells you just how the New Edison is going to please you and your friends in your home.

Wouldn't you like to try the same test? There's an Edison dealer near you, who has equipped himself to give the Realism Test. Watch for his announcement in the local newspapers, and stop in his store the next time you are in town. He will give you the Realism Test just as it was given for the noted psychologists in the Edison Shop on Fifth Avenue, New York.

If you can't find his announcement, write us and we'll send you a special card of introduction to him, and also mail you a copy of that absorbing story, "Edison and Music," which tells how Mr. Edison brought the phonograph to its perfection. Just send your name and address to

THOMAS A. EDISON, Inc., Orange, N. J.

The NEW EDISON
The Phonograph with a Soul



Cletrac
TANK-TYPE
TRACTOR



Wheels on a track — the
Cletrac way — take less power

Cletrac Excels In Orchard Work

Working orchard ground is exacting business. The small, low-set Cletrac does the work thoroughly and quickly.

The Cletrac has no projections, it works close to the trees without injury to the bark and branches. It turns short and covers all the ground.

The firm grip of its broad metal tracks carries the Cletrac over soft earth and hilly ground steadily and smoothly.

One man or a boy can operate the Cletrac easily. It burns kerosene or distillate perfectly—gives more work more days in the year at lower expense.

When actual orchard work is slack the hustling little Cletrac keeps busy on belt work—crate and box manufacturing, etc.—or hauling jobs.

Ask your dealer about the Cletrac or write for our interesting booklet, "Selecting Your Tractor."

The Cleveland Tractor Co.

Largest Producers of Tank-Type Tractors in the World

18935 Euclid Avenue

Cleveland, Ohio

VENTILATED PAD
ATTACHED



Patented December 12, 1918

**CLARK'S STANDARD
BUSHEL PACKAGE**

With Ventilated Paper Cap
Attached to Cover

Saves Time—Labor—Money
Prevents Slat from Cutting and Bruising
Fruits and Vegetables, also
Allows Ventilation

Clark Paper & Manufacturing Co.
Stek-O Hill Rochester, N. Y.

MANUFACTURERS of
Sno-Bak Corrugated Paper Circles, Fruit Cushions
and other supplies for packing fruit.

HARRISON'S NURSERIE

Fruit Trees Budded
From Fruiting Orchards

Peach, apple, pear, plum, cherry,
quince trees, grape-vines, strawberry
plants, raspberries, blackberries, ever-
greens, shade trees and shrubbery.

Write for 1920 catalog
HARRISON'S NURSERIES
Box 52 Berlin, Maryland

World's Best Roofing

At Factory
Prices

"Reo" Cluster Metal Shingles, V-Crimp, Corrugated, Standing Seam, Painted or Galvanized Roofings, Siding, Wallboard, Paints, etc., direct to you at Rock-Bottom Factory Prices. Positively greatest offer ever made.

Edwards "Reo" Metal Shingles

cost less; outlast three ordinary roofs. No painting or repairs. Guaranteed rot, fire, rust, lightning proof.

Free Roofing Book

Get our wonderfully low prices and free samples. We sell direct to you and save you all in-between dealer's profits. Ask for Book No. 104



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Lowest prices on Ready-Made Fire-Proof Steel Garages. Set up any place. Send postal for Garage Book, showing styles.

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Samples &
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SAVE THE TREES

Spray for San Jose Scale, Aphids, White Fly, etc. with

GOOD'S CAUSTIC FISH OIL SOAP No. 3

Contains nothing poisonous or injurious to plants or animals.

FREE—Our book on Tree and Plant Diseases. Write for it today.

JAMES GOOD, Original Maker, 2111 - 15 E. Sycamore Ave., PHILA.

The Bushel Basket Strawberry will be grown in every garden and commercial plantation. Big, productive, handsome, delicious. Interesting illustrated plant circular free.
A. B. KATKAMIER Macedon, N. Y.

The Greatest Market Strawberry HOWARD'S No. 17

MORE DOLLARS — are made in growing this Wonderful Staminate Variety than any other.

YIELDS PLANTS — at the rate of 15,000 quarts per acre.

BERRIES — very vigorous with perfect foliage.

— are large, firm, very beautiful and delicious.

SEASON — very early to late.

A STRAWBERRY — without a fault that will solve the variety question for both home use and market.

THIS ACQUISITION — was produced after 30 years of Scientific Plant Breeding and after 25,000 seedlings had been originated.

Price for 25 Plants, \$1.99; 50, \$2.50; Postpaid

Address the **ORIGINATORS** and get the genuine.

A. B. HOWARD & SON Belchertown, Mass.

Roadside Planting

By H. J. Kuelling, Wisconsin

If you have any questions to ask about road building, send them in, addressed to H. J. Kuelling, American Fruit Grower, Chicago, Ill.

WITH the ever-increasing public interest in the road question more attention is gradually being given to the beauty side of the subject. This is especially true of roadside planting or anything that relates to the maintaining or care of trees and shrubbery along the highways.

While this public interest is growing it has still a long way to go before it reaches full development. In fact, there are many places where little or no thought is given to the subject. A few states, however, have passed laws in part controlling this question. Some have what they call Rural Planning Commissions, either controlled by the state or by county governments. These Rural Planning Commissions have certain powers and certain duties relative to the betterment of conditions in the county, and included in their duties is the question of parks and beautifying roads and highways within their jurisdiction.

It is a very short step backwards to the time when one of the big problems of the highway builder was the getting rid of trees where he was cutting a road through a new territory. In fact, there are many sections of the country yet where one of the big jobs of road building is the clearing and grubbing. In such sections the subject of roadside planting is not attracting very much attention as the chief object is to get rid of some of the trees they now have, but on the majority of roads in the United States the protection of trees, rather than their elimination, is something that should be given careful attention.

Unless this is done in some sections it will result in a barren appearance as some of our fine shade trees cannot be reproduced short of thirty to fifty years and even longer. Where they are already provided by nature they certainly should be protected, even at considerable expense. It is well known that a city lot in a residential district is worth much more money with a few shade trees than without. In a similar way, a highway with something to add to its beauty is certainly worth more to a community than one without trees or shrubbery.

Naturally the easiest way to obtain roadside trees is to not destroy those existing. This is especially true of fine individual trees that often are standing along the road. Very often these individual trees have historical value or value as a landmark of some kind and have been retained for many years by the local people. Road officials should be very slow about destroying any of this type of trees.

On the other hand, it must not be forgotten that there is a second side to this question. That is, the side of the road builder. Very often trees are a detriment to the road. They retain moisture and make the road require a considerably longer time to dry out in wet weather. They often are sources of danger, especially on curves or where they stand very close to the traveled way. Many accidents have been caused by automobiles drivers running into these trees. Another objection is that trees and brush, especially if standing close together along the road, are the best catchers of snow that we have. This is more especially true of shrubbery than of trees, and with the population agitation going around in the northern states for keeping the roads open in winter, this shrubbery is going to add a very material amount to the cost of keeping these roads open. In fact, in many places it will make it almost impossible to keep the roads away.

Still another objection to any considerable amount of road trees is that they rob the surrounding soil and make it very much less productive.

(Continued on page 30)

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Time—Time!

Time is the essence of everything to the Country Business Man.

The element of time is of even greater importance to the agriculturist, the stock raiser, the dairy or truck farmer, than it is to the urban business man.

In seed-time, haying or harvest time, the loss of a day may mean the loss of a large part of the season—and much, if not all, the net profit on the year's work.

For weather and growing crops will not wait.

Nor will the markets—either local or national.

When a broken farm implement necessitates taking the team off urgent work for several hours to get the repairs or replacements, it often means loss of many times their value—less acreage in crops—or grain lost through over-ripening.

That's when the pneumatic-tired Reo "Speed-Wagon" proves its worth and quickly pays for itself.

It leaves to the horses or the tractor the field work while it does all the road running.

This Reo "Speed-Wagon" markets at twenty miles an hour instead of four.

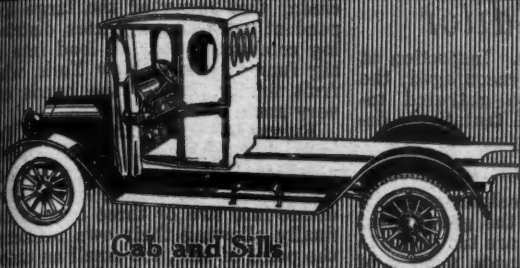
Eighty per cent of the time now wasted between farm and town can be made available for increased profits.

And—the Reo will do another day's work after the horses are in the barn.

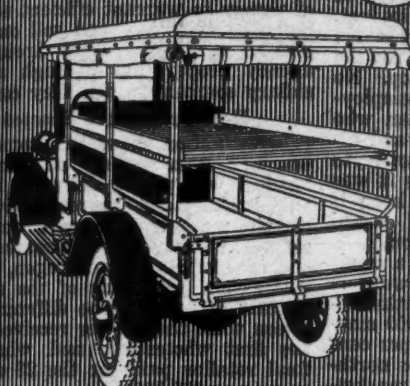
Successful farmers no longer consider getting along without a motor truck—it makes successful farmers.

There is a Reo Dealer in Your Vicinity

Reo Motor Car Company, Lansing, Mich.



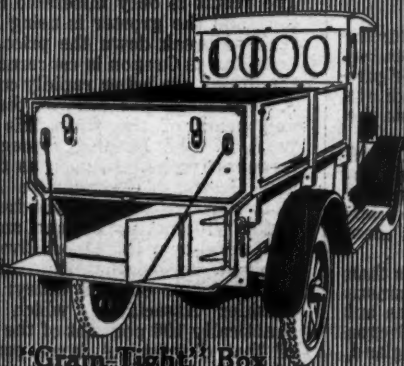
Cabs and Sills



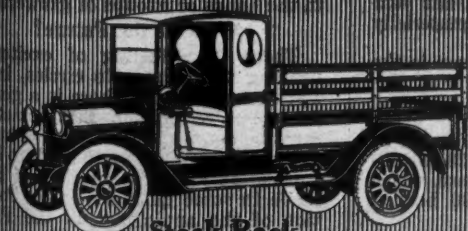
Fruit and Truck Gardener's Van



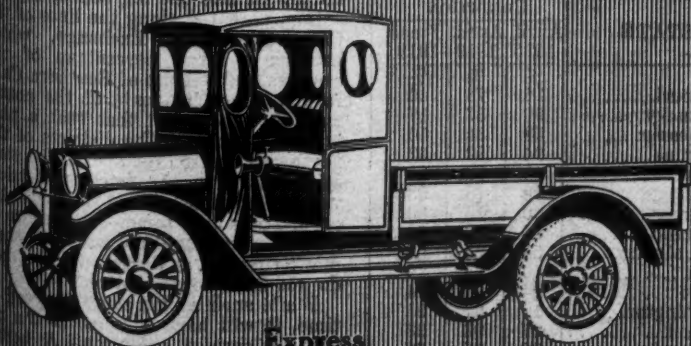
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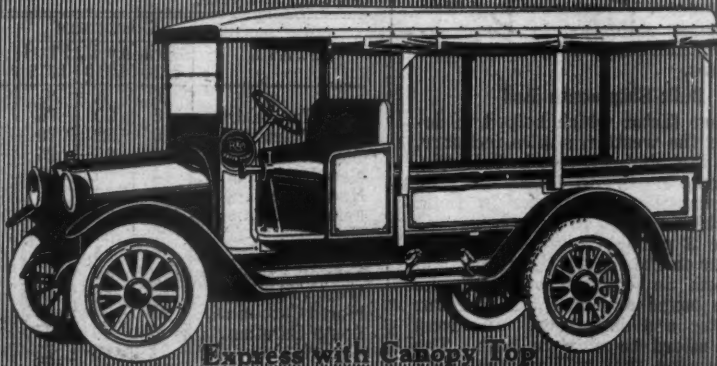
Crain-Tight Box



Stock Rack



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Express with Canopy Top

"THE GOLD STANDARD OF VALUE'S"

Marketing Development in Pacific Northwest

By C. I. Lewis, Associate Editor

Questions about fruit growing in the Pacific northwest are invited and may be sent directly to Prof. C. I. Lewis, Salem, Ore. Please enclose a two-cent stamp for a reply.

THE estimated crop of apples of the entire Pacific northwest this past season is close to 35,000 cars. This represents a very rapid growth in tonnage. In 1910 to 14,000 cars. Three years ago saw 1912, we were wrestling with 10,000 to about 25,000 cars, last year, 22,000 cars, and it is evident that in the not distant future the northwest will have to count on 50,000 cars of apples.

Our marketing experiences this past season have not been entirely satisfactory. Up to November 1st, results were very gratifying, and at this writing, the latter part of March, the apple market seems to have righted itself and normal prices are being experienced. Much of the tonnage, however, which was sold between November and March, was sacrificed.

Early Sales too High

One of the fundamental causes of the poor season just passed was due to the fact that the opening prices for Pacific northwest apples were too high. Cash buyers came out from the east, and figured that the crop was lighter than it really was. The early prices were exceedingly high, and caused growers as a whole to lose their heads. A large percentage of the apples which the cash buyers purchased, were sold by them at a loss, and naturally they are now sore.

A great many buyers felt that the early cash openings were far too high, and refused to follow in their purchasing. Coupled with this combination, some growers sold altogether too cheap, to a bunch of inexperienced buyers. The latter consigned, on the open market, or offered the fruit at spot cash for much less than the opening prices. Of course, such a combination immediately demoralized the market. To aggravate the situation, the coal strike was threatened, and this scared many of the purchasers.

During the years the government controlled the railroads, practically no new equipment in the way of refrigerator cars was supplied. The result is that today there is a fearful shortage of refrigerators. Car shortage meant delay in shipping. As a result, a considerable percentage of the apples from the northwest shipped during November, December and January, were over-ripe. They had been stored in churches, school houses, vacant stores, any available place, until cars could be secured.

While some of this fruit may not have actually been over-ripe, at the point of delivery, it was too far advanced to warrant cold storage. In early December came the big freeze, in which many of the apples in the northwest were frozen, and despite the earnest efforts of many people, a considerable percentage of these apples found their way into the market. Not only that, but a large percentage of fruit was frozen in transit. The result has been that prices are of course unsatisfactory. There may be, a little later, some adjustments made by transportation companies to cover certain losses.

Bulk Shipments Bad

Another factor which helped to demoralize the western apples industry, was the fact that growers in Colorado, Utah, and parts of Idaho, shipped large quantities of apples in bulk. When this is done, in such a way as to make it possible for the buyers at the other end to repack the apples and sell them in competition with the western boxed apples, the results for the latter are disastrous. The west cannot afford to ship in bulk. The only occasion that will warrant bulk shipments, is when the fruit is guaranteed to be made into horticultural products, such as dried fruit, jams, jellies, fruit juices, and even then the

growers had better organize their business so as to do this manufacturing themselves. If the northwest wants to ruin their apple business, they just want to introduce bulk shipments.

In order to thoroughly understand this past year's experience, and to be able to make recommendations for the future, we should review briefly the last few years of the northwest apple handling. The years from 1912 to 1915 were disastrous years. But 1915 to 1919 were very good. This is due partly to the formation of the "Fruit Growers' Agency, Incorporated," which was formed at Spokane through the agency of the Federal Bureau of Markets. At the time the agency began to function, most of the apples were shipped to one or two markets. A large percentage of the fruit was being consigned. Opening prices were frequently too high, so that there was a decline later in the season, whereas a healthy apple market should mean fair opening prices, in the fall, with constantly increasing schedule of prices throughout the season. In this way, the early buyers are properly protected.

While the Fruit Growers' Agency, Incorporated, was simply a means by which the government could reach out its helping hand to the northwest, nevertheless, through its offices helpful, constructive steps were taken. First, all the buyers were brought together. Buyers who did not handle at least 100 cars were discouraged from operating, and the growers were encouraged to align themselves with buyers' marketing agencies.

An advertising campaign was inaugurated; steps were taken to develop new markets; daily market reports were furnished to the growers, together with weather reports at

points of consumption. Inspection at receiving points was encouraged; the selling agencies were gathered together in the fall, and tentatively decided on a fair opening price.

Weakness in the Plan

There were some weaknesses in the general plan. First, the government agents did what they are too prone to do, namely, to inaugurate a piece of work and before it is firmly on its feet, desert it and start something else. No adequate plan was worked out for the proper financing of the agency. No provision was made for the employment of a real high-class man who could give up his entire time and attention to keeping the agency active, to have it perform the functions it was destined to perform, and to keep it from entering fields which would weaken it because of dissension.

The market development as a result of the agency's activity, was wonderful. The year of 1917 saw northwestern apples shipped to over 1,000 markets. At that time about 90 per cent of the growers of the Pacific northwest were aligned with some marketing agency. Today the estimates give the figures as ranging from 30 to 50 per cent. Why the change? First, inadequate financing and support of the fruit agency. Second, high prices the past two years have turned many of the growers' heads. It has been no trick on the whole, to sell things with prices high, and the demands strong, and this has led many growers out onto pretty thin ice.

In justice it is only fair to state, however, that some of the marketing agencies have failed miserably. While they have been proclaiming their independence and splendid marketing facilities, investigations have shown that they are simply a link in the

chain; that many of the large independent marketing agencies, distributing companies, etc., all lead into one big funnel back in New York, where fruit finally reaches the hands of a very small circle of men.

Everyone who handles the fruit gets his rake-off. Some selling agencies that might allow a liberal amount for the selling of the fruit, divide into two or three commissions, finally allowing their own brokers at the point of sale, too small an amount of money to warrant efficient service. Some agencies buy and sell on their own account, perhaps not through the agency proper, but through a subsidiary company which they control.

How Prices Are Boosted

Investigation shows that some fruit which certain selling organizations handled was partly delivered to the paid brokers and representatives of certain markets, and part was consigned in this very same market. In one case of Southern Oregon, an investigation was made of the sale of 23 cars of pears. The difference between what the grower received from the first wholesaler, and what the final retailer paid for the 23 cars of pears was \$27,300.

In some districts, there have been far too many agencies and buyers. In one district in Southern Oregon, there were 11 agencies the past year, handling all told, about 1,000 cars of fruit. Each maintained high-salaried local agents, offices, stenographers, purchased automobiles, and in some cases conducted warehouses. Of course, the growers paid the bill, and while some of these agencies appeared to be independent in the west, investigations show that back east they are often links of the same chain.

But just imagine, if you will, the effect of having say 11 agencies in Southern Oregon, put Yellow Newtowns or Anjou pears, from that district in the same market the same day. The result is only miserable competition, and the grower is using his own fruit to break down the price.

As far as Oregon is concerned, these conditions are being rapidly corrected. A very large per cent of the apples and pears of the state this coming year, will be handled through large co-operative bodies, such as the Oregon Growers' Co-operative Association, which will control the fresh fruit of the Willamette, Umpqua, and Rogue River Valleys; the Hood River Apple Growers' Association, the real potent, strong factor of that valley; and the Moshier Association, which controls practically 100 per cent of the tonnage of that district. A large percentage of the fruit of Eastern Oregon is also in the hands of groups of growers.

What of the Future?

There is a feeling of excitement running through apple circles, in the Pacific northwest. There is a general consensus of opinion that something must be done, and growers and buyers are asking, "What of the future?"

One recommendation that is being made in some quarters, is the formation of the apple men of the Pacific northwest into one big selling organization, patented along the lines of the California Fruit Exchange, which handles a large percentage of the oranges and lemons of Southern California. Close students of the northwest, however, feel that such a plan is bound to fail. The districts of the northwest are too far apart. The varieties grown in the various districts vary tremendously. The various states or districts are somewhat jealous of each other, and will not surrender their marketing to anybody wherein they do not have some control.

While such a plan might succeed in time, it will have to come as the result of careful evolution. A better plan would seem to be to revive a body like the Fruit Growers' Agency, Incorporated, on much the same lines.

(Continued on page 34)

Government Peach Forecast

According to a special commercial peach report issued by the Bureau of Crop Estimates on April 12th, the commercial peach crop is now passing through a critical stage in many parts of the country. The condition figure refers to condition up until April 10th. Late telegraphic reports indicate that many parts of the middle west and south have suffered from frosts the past few days so that any quantity estimate at this time is tentative.

In general the crop promises to be practically full in California and Georgia, the two leading peach states. The crop in Ohio and Michigan promises to be good as trees in these states wintered in good condition and are well set with buds. The Arkansas, Texas, Oklahoma, Missouri crops promises to be very light, due to the severe freeze which occurred in these states the first week in April.

In the far west the Utah peach crop promises to be very much less than last year and many sections of the state are nearly a failure. The famous Palisade section of Colorado also suffered from winter injury and has but about half a crop. The northwest crop in Washington, Idaho and Oregon was, for the most part, winter killed. The same is true of New England, the Hudson Valley and many parts of Western New York.

The Middle Atlantic states promise fully as good a crop as last year and orchards are in good condition, although acreage has declined materially in West Virginia and Maryland.

The prospects on April 1st were for about 77% of a peach crop in the United States as compared to prospects for 84% of a crop last year at this time. Allowing for about a 10 per cent decline, as is usually the case during the season, due to unfavorable blooming conditions, the crop would be about 67% full as compared to 75% final last year. The crop is now indicated at 29,240,000 bushels as compared to the final production figure of 29,461,000 last year and 20,597,000 in 1918. Allowing for the normal decrease, which usually occurs during the season, the crop will be about 3,000,000 bushels less than last year.

STATE	CONDITION			STATE	CONDITION		
	April, 1920	April, 1919	Final 1919		April, 1920	April, 1919	Final 1919
New Hampshire	5	90	75	Missouri	15	78	40
Massachusetts	10	82	70	Kentucky	90	87	17
Connecticut	12	75	25	Tennessee	59	84	50
New York	48	85	25	Alabama	94	82	62
New Jersey	37	90	65	Texas	40	78	87
Pennsylvania	38	75	60	Oklahoma	29	78	68
Delaware	87	85	70	Arkansas	30	85	80
Maryland	80	85	41	Colorado	55	72	70
Virginia	92	80	61	New Mexico	55	20	50
West Virginia	38	85	49	Utah	40	95	79
North Carolina	96	95	46	Idaho	24	96	74
South Carolina	90	90	25	Washington	17	97	85
Georgia	92	68	78	Oregon	27	98	93
Ohio	99	81	76	California	92	95	98
Indiana	75	82	11				
Illinois	50	83	50	Total U. S.	77	84	75
Michigan	97	62	16				



Don't Let Pests Steal Your Profits!

WHEN fruit withers and falls, potatoes and other garden products die and decay, hogs do not put on weight, and hens do not lay—the trouble is tiny, hidden, destructive pests in thousands and thousands of cases. They are *stealing* a big part of your profits!

Send the coupon and learn now how to recognize and drive out these pests—the San Jose Scale, Codling Moth, Scab, Blotch, Bitter Rot, Lice, Mites and the whole deadly costly lot of them—*by spraying*.

Our new FREE Book and Spraying Guide tell you how. They cover the entire subject of spraying. Tell how to recognize and kill every known pest. What solution to use—how to mix it—how and when to apply it. And page after page of information that every Farmer and Fruit Grower wants to know.

The books tell how these millions of troublesome pests cost each Farmer and Fruit Grower more *each year* than several spraying out-

fits. And they prove that killing these pests adds hundreds—even thousands of dollars to yearly profits.

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The famous Hayes Sprayer Line includes every known size and type—from the large Triplex Fruit-Fog Power Outfit to Smallest Garden Atomizer.

Whether for spraying Orchards or Gardens, for disinfecting Hogs or Poultry, for Whitewashing, Cold Water Painting, or for a hundred other time-saving, money-making uses, there is a Hayes Sprayer to exactly meet your needs.

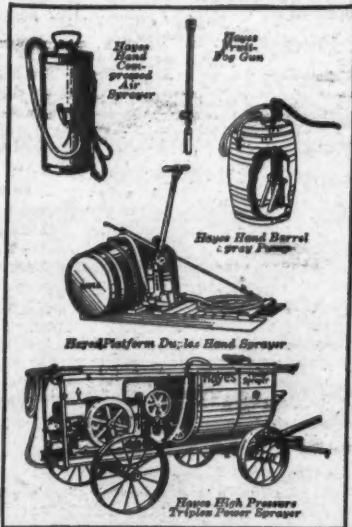
Hayes Sprayers are designed for ease of operation, high pressure and enduring service. They give quickest results with least effort.

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Tell us how many trees you want to spray and how old they are on the average, also what other uses you have for your sprayer.

We will tell you where and how you can get the style of Hayes Sprayer best suited to your needs, and its price. We will also send our Big New Book of Hayes Sprayers and Valuable Spraying Guide FREE.

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Hayes Pump & Planter Co., Dept. P, Galva, Ill.

Gentlemen: Please send, FREE and without obligation, your Big New Book of Hayes Sprayers and your Valuable Spraying Guide.

Number of trees..... Average age.....

Other uses.....

Name.....

P. O.

State..... R. F. D.

(81)

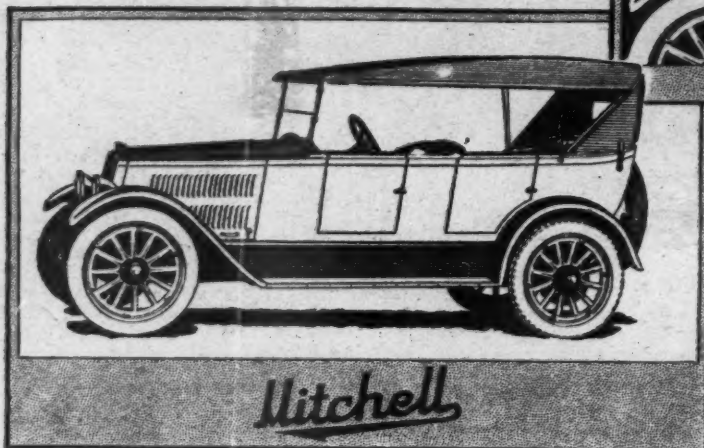


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They show the fifty styles of Hayes Sprayers. Tell how to recognize and kill every known pest. Explain what solution to use—how to mix it—how and when to apply it. Worth hundreds of dollars to any Farmer or Fruit Grower. Send the coupon and get your copies FREE.

You save much in first cost and upkeep when you choose the New Mitchell

Four models: 5-passenger Touring Car, 3-passenger Roadster, 5-passenger Sedan and 4-passenger Coupe.



This enlargement shows the new lines of radiator, windshield, louvers. Note how they harmonize, all being brought to the same slant. This is the new-day style.

The new Mitchell Six challenges comparison. People marvel how we can afford to give so much.

The secret is that we have learned how to put in over-values by making countless savings in manufacture. For example, Mitchell is one of the very few makers that builds bodies. Thus we save the profits to outside body-builders. That saving goes into the car.

Throughout we build for strength, durability, lasting newness. Every item is finer. For instance, the top is hand-tailored, to insure its shape and finish. Examine every item, note that no car of equal price offers so many.

This new Mitchell is a 14 year development, the climax of a master-group of builders. You cannot afford to decide upon *which* car, until you have investigated it, until you know how much more it offers for your money. We invite comparisons.

The new Mitchells can be seen at the nearest Mitchell Dealers, or we will be glad to send our latest catalog, describing our new models in detail.

But don't delay getting acquainted with this new car at once. Then place your order early so as to insure early delivery.

MITCHELL MOTORS COMPANY, INC., RACINE, WISCONSIN

INSYDE TYRES

— genuine inner armor for auto tires. Double mileage; prevent punctures and blowouts. Easily applied without tools. Distributors wanted. Details free.

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TOMATO AND CABBAGE PLANTS

Early Jersey and Charleston Wakefield and flat dutch cabbage plants and Stone, Earliana and Livingston Globe tomato plants, 100 for 45 cents, 500 for \$1.75, 1000 for \$3.25 postpaid. By express collect, 1000 for \$1.75, 5000 for \$7.50. Satisfaction guaranteed. Address:

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PURE PARIS GREEN 39c

Per pound Arsenate of calcium 26c. Arsenate of lead 32c. Bordeaux Mixture 22c. Bordo-arsenate 26c. Dry Lime-Sulphur 15c. Quality only. Buy it the co-operative way. Special prices on large quantities. Write for complete price list. Reference, any bank.

American Co-operative Association, Dept. 24 Milwaukee, Wis.

A PROFITABLE APPLE TREE

By J. M. Myers, Maryland

I named this Wolf River tree the "Champion," for the reason it brought me such an enormous crop in 1918. For the benefit of the readers of AMERICAN FRUIT GROWER, I will give an outline of this mammoth tree. It was planted 30 years ago and never received much attention. Ten years ago I started planting commercial orchards. I then began to realize the value of this old tree and the first step was to give it a thorough pruning, which required a full day's work. Next was a complete spraying for scale. The result was no fruit the first year due to heavy pruning. The second year I did not prune more than remove the water sprouts, sprayed again for scale, also for codling moth.

I had a heavy set of apples, but little before ripening they became infested with bitter rot, and I lost practically all the fruit. Two years later I again had a heavy set of fruit. This time I followed my former sprays with two later sprays consisting of Bordeaux. This time they had the right medicine, and the result was a tree loaded with beautiful large Wolf River apples, 45 apples one bushel.

I have now harvested three crops of perfect apples from this tree, yielding from 14 to 18 barrels of perfect fruit. The last crop was in 1918.

Following are the figures:

10 barrels	@ \$5.00	\$50.00
5 barrels	@ 6.00	30.00
5 baskets select	@ 2.50	12.50

Gross income \$92.50

Automobiles Help

(Continued from page 5)

throughout the orchard with heart-breaking speed. But the well-sprayed fruit resisted the insidious fungous disease and when the sun shone again, the trees were free from bitter rot and full of clean, bright fruit which later brought top prices. No one need ever suggest to this grower that it is an extravagance to own an automobile.

Verdict of Junior Jury

If there were need of enlisting more voices in favor of the farmer's car, it would only be necessary to take the case to the young people of the family and the verdict would be unanimous. I have two boys and a girl growing up, and so far, not one of them has voiced impatience with farm conditions. No doubt the modern conveniences with which the home is equipped, have something to do with their contentment, but it's the social side that appeals to youth.

Their parents may congratulate themselves that the car has made it possible for the children to attend the high school six miles away without being obliged to leave home, but the youngsters themselves think more of the ball game, the church picnic, the band concert, etc., all of which would be quite beyond their reach without the aid of "Hippity Hop" as they have dubbed the small machine that is more especially devoted to their service. The rain has never been too hard and the snow seldom too deep for "Hippity Hop" to land our children at the schoolhouse on time. Their stand in class is never periled by days of absence on account of bad weather. Now that holiday time is within hailing distance, they already have under discussion several exciting plans, in all of which the faithful "Hippity" is expected to take a leading part.

I recall some years ago, when an orchard tract was sold near us and the new neighbor moved into the little shack which was the only building upon it, he parked a right good-looking car under the shelter of a big oak tree on what is now the side lawn. Most of us laughed at the idea of a man who was living in a shack owning such a fine car, but my Uncle Joe, who is not a hasty man, said "Just give him time. I like his spirit," and sure enough, before snow fell, there was a neat cottage beside the spreading oak and the car was snugly housed in its own garage. If you live anywhere near us you won't have to ask who this neighbor may be. He's one of our leading men now and we feel that we couldn't very well get on without him. Incidentally, he influenced quite a number of us to invest in automobiles.

SOLDIER FRUIT GROWERS

The state of New South Wales has developed the boldest policy for settling returned soldiers in the fruit growing industry. Two thousand five hundred returned men are being thus settled on over 50,000 acres in group settlements of 25 to 40 blocks, with a returned soldier in charge, in order to economically supervise and instruct the men, and, subsequently, to market the product co-operatively. While the orchards are coming into bearing the men are growing vegetables, and a sustenance allowance is made as follows:

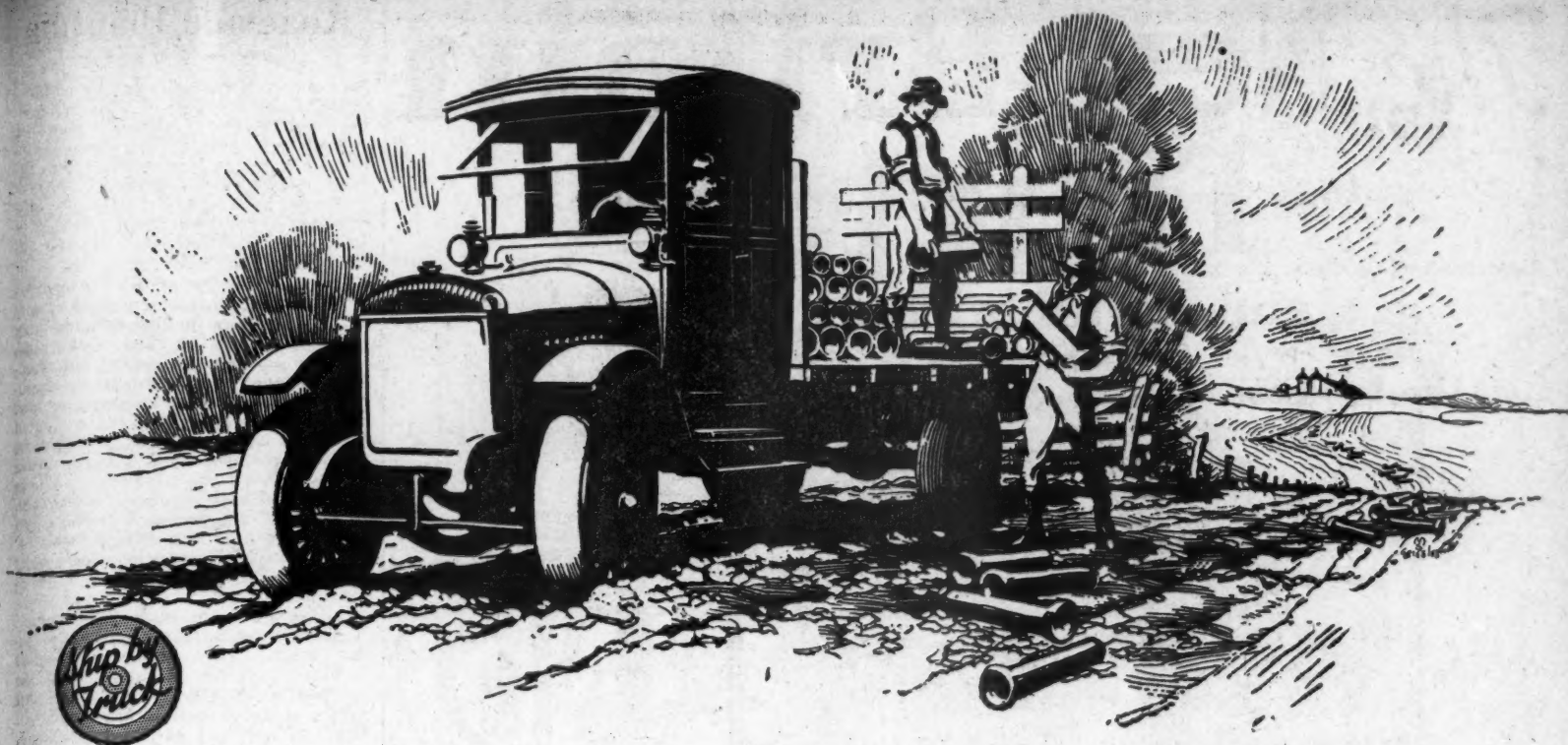
For single men \$6.25 per week, exclusive of pension.

For married men, \$10.00 per week, plus one dollar for the wife and child, and 2s. 6d. (60 cents) per week for each child up to four, under the age of 16 years, exclusive of pension.

This sustenance is a first charge against all sales of produce of the farmer and any balance owing at the end of the sustenance period, six years, must be repaid in five equal annual installments with 5½ per cent interest added.

Of the 2,500 soldier fruit growers, at least 1,000 will be placed on the Murrumbidgee irrigation areas—a large scheme which has been developed by the New South Wales government at a cost of £5,000,000 (\$25,000,000).

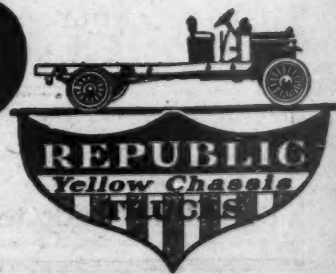
Kindly mention American Fruit Grower when writing to advertisers



A truck wins preference only by *performance*. Therefore, the fact that Republic Trucks have won the greatest truck-preference in the world is the most convincing evidence of their greater ruggedness and economy. By doing *harder work, for a longer time, at lower cost*, Republic Trucks have proved their superiority to more than 60,000 owners.

REPUBLIC TRUCKS

Republic Motor Truck Company, Inc., 934 Michigan Ave., Alma, Michigan



The New Britain Tractor

and Portable Power Plant

Long Life, Low Cost



HERE is a real Tractor; diminutive in size and cost as compared with heavy duty tractors.

With ample power at the drawbar and 6 h. p. at the belt, can jog along all day with any one-horse-drawn implement, or jog home under its own power to drive a saw, silo filler, grinder, sheller, pump, fanning-mill, or charge the batteries of a home lighting system.

The New Britain Tractor has sufficient clearance to straddle rows 9 to 13 inches high; compact enough to

work between rows 24 inches apart; low enough to creep under smallest orchard trees; flexible enough to dodge obstructions and injury to plants.

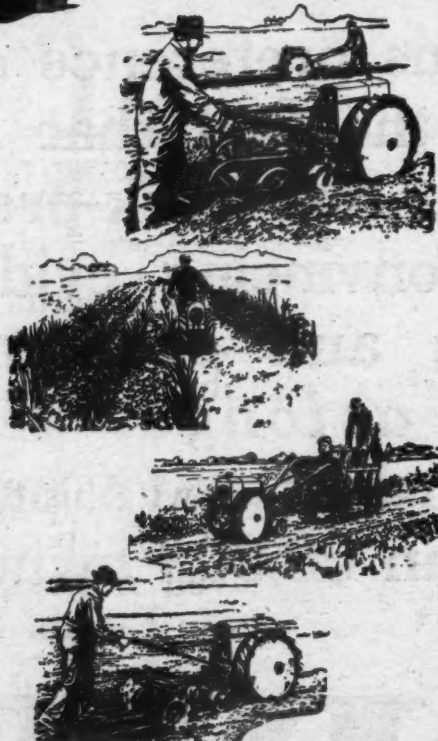
The manufacturers of the New Britain Tractor have been making fine machine tools for 32 years. Its finer parts are produced by mechanics whose unit of measurement is one ten-thousandth of an inch.

Two models are furnished. Both are described in detail in booklet, sent free on request.

THE NEW BRITAIN MACHINE CO.

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Branches: New York Philadelphia San Francisco Chicago Cleveland Detroit



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BRANCH MANAGER

1411 Wyandotte St.

Kansas City, Missouri

Please mention the American Fruit Grower when writing to our advertisers

American Fruit Grower

Roadside Planting

(Continued from page 24)

Not only rob the soil, but by shading it make considerable of the surrounding soil much less productive. A row of trees planted along a fence on a road is certainly a detriment to the land within the fence.

There is another feature to the question of roadside trees, and that is, in most states the public merely has the use of the land within the right of way for road purposes. Any trees or shrubbery within that right of way can be cut by public officials only where done for the good of the road, but the individuals owning the abutting land can cut these trees or shrubbery for any purpose whatever as that is their property. This means that a beautiful tree or row of trees can be entirely removed by a private owner on most American highways. Where the right of way is actually purchased, of course, this does not pertain. In such cases it is a very simple matter to plan the highway scheme and plant whatever trees or shrubbery the officials desire.

Trees for Roadside Planting

As to the question of actually planting trees. This is a subject that would require considerable thought on the part of the officials in charge. All kinds of trees will not grow in all kinds of territory or all kinds of soil. The proper selection of trees should be in the hands of one who understands their growth. Generally the best trees to plant are those that are natives of that particular country and of that particular soil. One scheme that is followed very satisfactorily is for the Park Commission, where they have such an institution, to cooperate in the selection and planting of the trees. Among the types that will undoubtedly be used to a large extent in a big area of the country are the various elms and maples, with possibly some oaks, hickories and basswoods.

A great deal of talk is heard about using fruit and nut trees for roadside planting. The writer does not believe that these are especially adapted to American conditions. They would undoubtedly grow but as soon as they became productive the care and maintenance of them would be a large burden of expense. In the first place, the American youth, not to mention the grown folks, would feel perfectly at liberty to help themselves and would overdo the matter of gathering the produce. Foreign countries have tried this type of roadside planting and have not met with much success. If, with the strict laws in foreign countries, they are not able to manage the youths, certainly we would not be able to in this country.

It should be remembered that trees require a certain amount of care as well as any other growing crop. Where a large amount of this work is done probably it would be well to have a forester look after the work, not only the proper planting and types, but also the maintenance of the trees. The idea of profit from these trees should be entirely eliminated and they should be justified merely on the grounds of beauty and convenience for the traveling public.

CEDAR IN LONG-LIVED

That cedar wood will last for a great many years even in conditions favorable to decay, is once again proved by an incident related in "American Forestry." A grave marker of Washington red cedar was dug up near Seattle, Wash., bearing in lettering still perfectly distinct, the date Dec., 1868. Although the piece of cedar was several feet under ground when unearthed, it was untouched by fungi or insects and remained in a state of almost perfect preservation. It would take a lot of graves to use up much cedar for grave markers, but apple growers would heartily recommend the use of red cedar as fence posts or for building material. The more extensive this use the fewer of these trees would be left to infect orchards with cedar rust.

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"Horse Sense"



Twelve years ago gasoline sold for 6 cents a gallon.

In 1896 there were only 4 automobiles in the United States—now there are 7,000,000.

A survey of farms in four counties throughout South Dakota shows the use of automobiles by 88 per cent of the people.

All trucks traffic—but there is only one Traffic Truck.

Motor-driven vehicles in the United States represent in the form of energy 150,000,000 horse-power, against 45,000,000 in steam, water and stationary gas engines combined. It is estimated that there is only 15,000,000 horse-power available from all the horses in the United States.

Edison made the burning of candles for lighting an expensive luxury—Traffic Trucks have made hauling with teams unprofitable.

The Traffic will save 50% of what it costs to haul with teams.

The Traffic is the lowest priced 4,000-lb. capacity truck in the world. Built of standardized units.

Traffic Specifications:

Red Seal Continental 3 3/4 x 5 motor; Covert transmission; multiple disc clutch; Bosch magneto; Carter carburetor; 4-piece cast shell, cellular type radiator; drop forged front axle with Timken roller bearings; Russell rear axle, internal gear, roller bearings; semi-elliptic front and rear springs; 6-inch U-channel frame; Standard-Fisk tires, 34 x 3 3/4 front, 34 x 5 rear; 133-inch wheelbase; 122-inch length of frame behind driver's seat; oil cup lubricating system; chassis painted, striped and varnished; driver's lazy-back seat and cushion regular equipment. Pneumatic cord tire equipment at extra cost. chassis \$1495 factory.

Notice to Dealers

It is Traffic policy to make direct connections in every city, town and village in the United States and Canada.

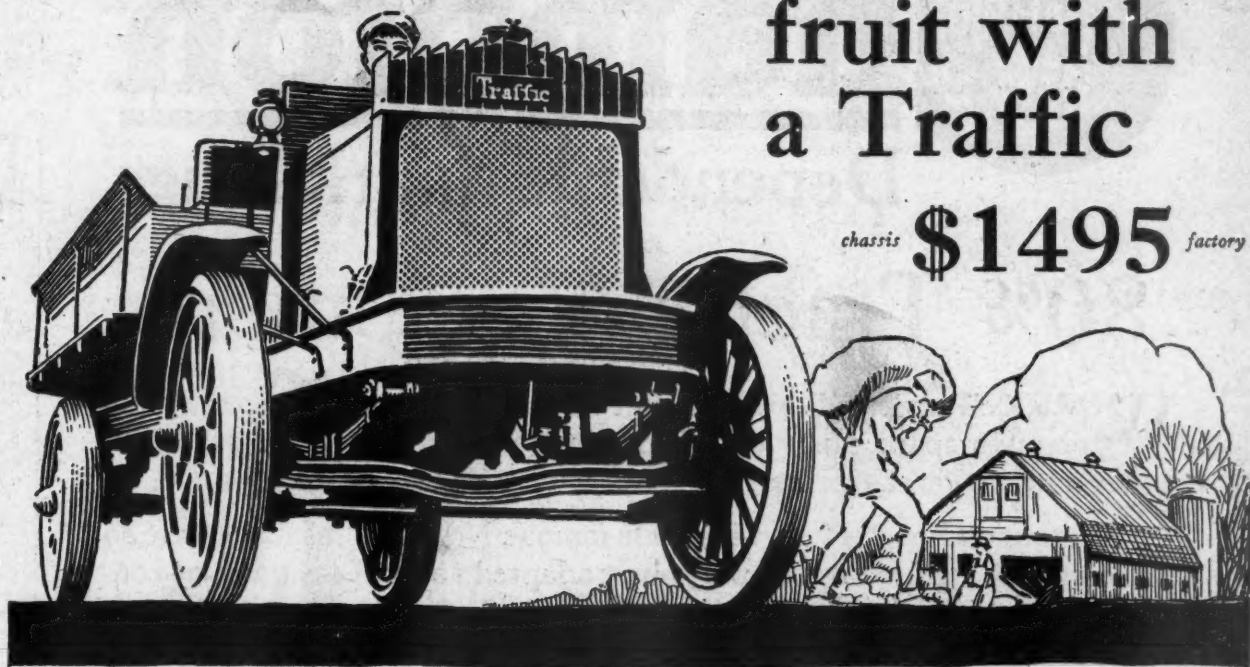
The demand for Traffics has made it necessary to quadruple the production this year.

Many dealers are getting in line now for future Traffic franchises.

You have no time to lose.

Get Top Prices—haul your fruit with a Traffic

chassis **\$1495** factory



Traffic Truck

4,000 LBS. CAPACITY

Many growers have missed top prices hauling products with teams, by arriving at market many hours after their neighbors had been there and back with motor trucks.

One farmer, with his truck, secured \$300 more for one crop than his neighbor who hauled with teams. Besides the time saved and extra profits to be made, the Traffic Truck cuts in half the cost of hauling with teams.

The Traffic is built of standardized units of recognized value, in the largest factory in the world devoted to building trucks of one design exclusively and a capacity that best fits the hauling requirements of the farmer and rancher. The Traffic hauls a 4,000-lb. load 14 miles in one hour for 30c worth of gasoline.

Quantity production is responsible for the low price of the Traffic, which saves you hundreds of dollars in first cost, and its quality saves you hundreds of dollars in maintenance cost.

Traffic Trucks are making money for thousands of owners from coast to coast—do your hauling with a Traffic, *the lowest priced 4,000-lb. capacity truck in the world.*

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Largest exclusive builders of 4,000-lb. capacity trucks in the world



Champion

Dependable Spark Plugs

80% Tractor Equipment

WORKING under full load ten to twelve hours at a stretch, the tractor gives spark plugs their most severe test. It means sustained power and terrific engine heat.

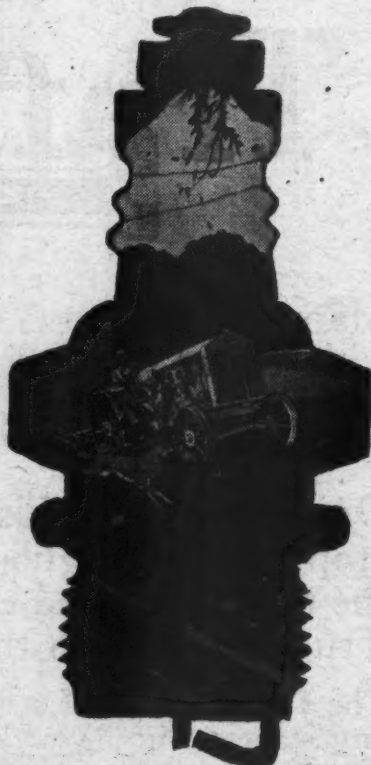
Champion Spark Plugs with their famous No. 3450 Insulators are so universally recognized as the plugs best adapted to fit these unusual conditions of shock, heat and temperature changes that they have been chosen as factory equipment on 80% of all the tractors being built today.



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Everyone to whom you sell nursery stock is a live prospect for a subscription to the **AMERICAN FRUIT GROWER**. Don't let them get away from you—they need the **AMERICAN FRUIT GROWER** whether they have a large orchard or only a few trees, especially since it is the *only* national fruit growing magazine published.

We will pay you liberally for all subscriptions, new or renewal, that you send us. Write for particulars.

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Barrel Making Simplified

The Hollingshead Process of assembling barrels is SO EASY that you no longer need any trade that wastes your product in wood.



Barrels are shipped knockdown — EASILY PUT TOGETHER. We loan you the assembling outfit FREE.

Learn How Easy It Is

Our booklet is sent for the asking. Save money in freight, storage and hauling.

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**J. D. HOLLINGSHEAD CO.
206 S. La Salle St. Chicago, Ill.**

Success With Bees

By F. C. Pellett, Illinois

Many times when raising bees, you want to know something special about what to do and how to do it. Send in your questions to F. C. Pellett, care American Fruit Grower, Chicago, Ill.

A Case of Poisoning

IN the last issue I told of the serious case of bee poisoning that developed last year in the Yakima valley of Washington and of the discussion as to real cause of the poisoning and means by which a repetition of the damage may be avoided this year.

A number of beekeepers have advocated the use of a repellent in the poison to prevent the bees from taking it. Entomologists, however, are doubtful about the possibility of finding a repellent which would save the bees, which would not at the same time prevent the poison being taken by the insects for whose benefit it is applied. In that case the end for which the fruit grower is working would be defeated.

The Remedy

Since a satisfactory remedy for this trouble is vital to the fruit grower, as well as the beekeeper, a reasonable co-operation should be expected. Beekeepers should not get excited and attempt to cure the matter by legislation. This will only make a bad matter worse since it is obviously impossible to enact and enforce a law which will meet all the conditions above described. Neither should the fruit grower take the position that it is no concern of his, for such an attitude may result in the passage of legislation that will complicate his affairs. By making a careful study of the conditions of the localities where the trouble occurs, it should be possible to work out a system of spraying which will control insect pests without injury to the bees.

It has long been known that damage from spraying on fruit bloom can largely be avoided by late spraying after the petals have mostly dropped. Special attention is necessary in the case of bloomers or irregular blooming varieties.

Where the injury comes from the cover crop, care must be taken that the be cut before the spray is applied, when spraying is necessary during its period of bloom.

Where the bees suck up the wet spray from the foliage when no blossoms are present, a new and more difficult problem is presented. Mr. Scullen reports that some beekeepers have met this situation by feeding the bees while the spray was being applied. No injury to the bees probably need be feared when it has dried. Since damage from this source has not been brought prominently to public attention previously, it is probable that it has resulted from some peculiar condition which may not manifest itself frequently. Since the beekeepers are moving their bees from the orchard districts in some cases poor crops for lack of proper pollination are likely to result unless a remedy is found.

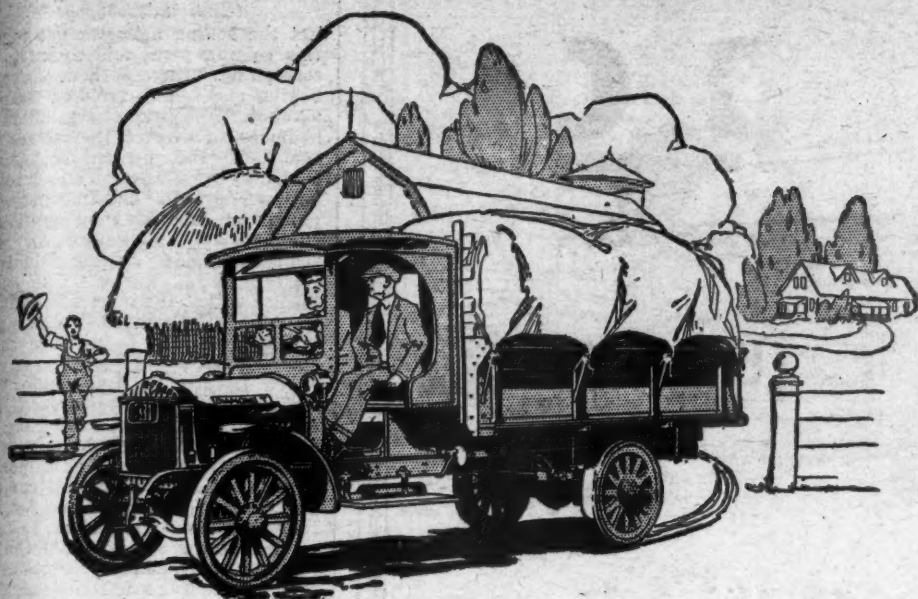
GETTING STARTED WITH BEES

A number of letters have reached the writer asking about getting started with bees, when to start, what to buy, where to get the bees. May is an ideal time to start beekeeping. The long winter is past and the productive period of the year is still ahead. With favorable conditions, the beginner should get some honey in the first season and learn much concerning the care of the bees.

Every inquirer is urged to buy a text book on beekeeping. There are so many puzzling questions constantly arising that a book is indispensable to one who wishes to understand the subject. The cost of the book is slight in comparison to its usefulness, that it is almost sure to save many times its price in expensive mistakes to one who will read it carefully. There are a number of good books on the market and they can be obtained through almost any bookseller. If anyone interested we will send

(Continued on page 33)

One a fully quick-exclus Box Hotch overhe motor, portan are in a 32-1 100 a descri which owner Your postcar ask for Special



Our dealings with successful fruit growers have shown us that they must, first of all, be good business men. To prosper, they must buy wisely and sell to best advantage.

They realize that with any purchase, whether it be a pruning knife or a piece of machinery, what it costs in the long run is far more important than what it costs to begin with. They want to know—and should know—all of the reasons why one article will serve their purpose better and at lower final-cost than another.



Diamond T Farm Special

appeals to them because careful study and investigation show that no truck has more power for its capacity; has greater endurance; provides a special body, as standard equipment, that meets their every requirement so perfectly; can make or save them more money, or can match it, unit for unit—at lower final cost.

Frankly, we wouldn't ask a good business man to buy a Diamond T Farm Special on "snap judgment." To choose wisely you should know more about the truck than we can tell you here. You should have evidence that our statements are facts not claims. So we use this space, not to sell you a truck, but to urge that you let us give you all of the reasons why sound business judgment should make your choice a Diamond T Farm Special.

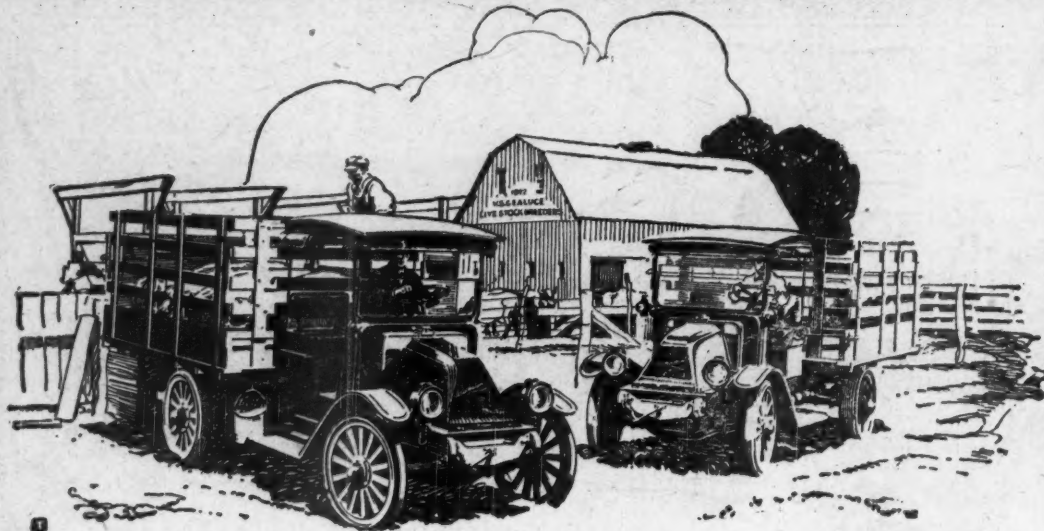
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4546 West 26th Street - Chicago, Ill.

DIAMOND T

"The Nation's Freight Car"

One and one-half (1½) tons; fully equipped; one-man, quick-change convertible body; exclusive Diamond T Spring Box (patented); Perfected Hotchkiss Drive; enduring overhead worm; "Dri-Gas" motor, and many other important mechanical features are interestingly explained in a 32-page book, with almost 100 clear illustrations and descriptions of points with which every possible truck owner should be familiar. Your name and address on a postcard will bring it. Just ask for "Diamond T Farm Special."



Your Rail-less Railroad

YOUR live stock and the produce from your fields, carried in freight trains to the cities, thunder past countless danger-signs with the warning, "Look Out for the Cars!" Each one of these marks the crossing-place of a country road—a road without rails, leading to railroad and town. Each one marks a farmer's right-of-way.

Since your farm is a 1920 enterprise, probably it is fitted with most of the following modern equipment—the telephone, good lighting and heating, a silo, a manure spreader, a cream separator, an automobile, an engine, a tractor.

But have your hauling problems found their proper solution? Are the time-losses and difficulties of a decade ago still impeding your endless carrying of farm loads?

Government statistics show that in

1918 alone, 350,000,000 tons of farm produce were transported to local shipping centers in motor trucks. The same national figures prove also that American farmers are the greatest users of motor trucks—among all industries. No progressive farmer can afford to overlook impressive facts like these.

Your name and address mailed to our office at Chicago will bring you descriptive folders that will prove interesting and instructive. Put an *International Motor Truck* at work on your farm and on the roads which are your right-of-way. Handle all your miscellaneous farm hauling with railway efficiency. The nine *International Motor Truck* sizes range from $\frac{3}{4}$ ton to $3\frac{1}{2}$ ton. Keep in mind that these trucks have been made for years by the makers of good and trusted farm machines.

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The Beautiful Homeland Section of Albemarle County. You will like this beckoning land in the heart of the fruitful Piedmont Section of Virginia. Hundreds of best Northern and Western families now here enjoying life on their productive farms and orchard properties. Home of the Famous Albemarle Pippin and Winesap Apples. Seat of the University of Virginia with its 1500 students and beautiful grounds and buildings. Church, school, social, business and transportation facilities unsurpassed. A community where the milk of human kindness flows most freely and hospitality springs spontaneous from our hearts. Come and see us. You will like it here in Albemarle. Write for beautiful illustrated booklet and list of attractive farm and orchard properties for sale.

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KINDLY MENTION AMERICAN FRUIT GROWER WHEN WRITING TO ADVERTISERS

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Low introductory offer puts this new saw-rig within reach of all, at small part of cost of other rigs. Saws your winter's wood in few hours. Powerful 4-cycle motor. Easy to operate, light to move. 80 days' trial to prove our claims. 10-year guarantee. Send today for FREE BOOK OF FACTS.

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The Threshing Problem Solved

Threshes cowpeas and soybeans from the mown vines, wheat, oats, rye and barley. A perfect combination machine. Nothing like it. "The machine I have been looking for for 20 years." W. F. Massey. "It will meet every demand." H. A. Morgan, Director Tenn. Exp. Station. Booklet 55 free. KOGER PEA & BEAN THRESHER CO. MORRISTOWN, TENN.

ORNAMENTAL FENCE

6 Cents per Foot and up. Costs less than wood. 40 designs. All steel. For Lawns, Churches and Cemeteries. Write for Free Catalog and Special Prices. Kokomo Fence Machine Co. 457 North St., Kokomo, Ind.

Marketing Development

(Continued from page 26)

Let the selling agencies get together this coming year, and agree to stop consigning. Have such agencies stop buying and selling fruit on their own account. Encourage some marketing agencies to divorce themselves from some of the present connections. Strive to bring about a closer relation between grower and marketing organization, whether they be private or co-operative. Inaugurate an advertising campaign, which will advertise western boxed apples. Use our influence to get the government to continue to furnish in the future, marketing reports, and to give us car inspection at the receiving points.

We have only five single tracks leading out of the northwest to the east, and far too few cars. Take steps at once to encourage the operation of steamboat lines from such ports as Seattle and Portland, such steamers to be equipped with facilities for handling perishable fruits, such as apples, to deliver the same to the Gulf and Atlantic ports, and the European markets. Encourage at once an educational campaign to teach the American people the real value of apples as a food, not so much as a mere tonic or health producer, but as a real, cheap, economic food.

Many Things to be Done

Next year, undoubtedly the cash buyers will be leery. Few will come out. The crop next year should normally be lighter than this past year. With the improvement of the foreign exchange, Europe may be able to again consume normal supplies of apples, such as the Newtown. With these conditions facing us, it is a very opportune time to do some very good constructive work. From the physical handling point of view, there are many things which we can do.

First, we must encourage earlier harvesting of some varieties. Then in some way or another secure more adequate cold storage facilities. Some of our large northwest bankers, who always claim to show a real interest in the apple industry of the northwest, could give valiant service to the growers, by assisting the growers to organize so that more cold storage can be built. Apple and pear handling is mighty expensive. We should encourage among ourselves a very close car inspection at this end. Encourage the building of community plants, which will mean rapid handling of our fruit.

How Can This Be Brought About?

First, a general call should be given by some neutral parties, to all the fruit handlers of the Pacific northwest, calling them into a conference and putting up squarely before them the problems which they have to face. The initial steps should be taken to again bring the growers and marketing agencies in closer contact, to encourage absolute and independent action on the part of the growers. A campaign should be inaugurated to increase the membership of growers' organizations. These organizations should preferably be co-operative, such as the Hood River Association, the Big-Y people of Yakima, and the Oregon Growers' Co-operative Association of Western Oregon.

The result of this conference should mean earlier harvesting, better storage facilities, more refrigerator cars, the inauguration of more boat lines, the establishment of an adequate advertising fund, the inauguration of a publicity agent, should result in the improvement of some marketing connections; should prohibit buyers from buying on their own account; should discourage consigning; and should tend to bring the growers together early in the season to decide on tentative, fair opening prices. This is the program which the Pacific northwest could follow to a good advantage, and some phases of it will undoubtedly be taken up this coming year.

Peach Destroyers

(Continued from page 6)

round, unindented spot of brown rot. This spot grows rapidly larger until finally the entire fruit is decayed and worthless. The real cause of the rot is due to the dense network of vegetating mycelium or fungus body within the tender tissues of the fruit.

The growth is surprisingly rapid. Hair-like sporophores are thrust out through the weakened skin and represent the gray surface mold which is characteristic of an advanced stage of the disease. The sporophores give off countless spores which are blown by the wind, carried by insects, birds, contact, etc., to peaches, plums and cherries for miles around. The spores enter healthy fruit through weak spots or abrasions in the skin and give rise to new generations of mycelia.

This simple life cycle may be completed within three days. The process is repeated over and over during the summer by billions of liberated spores. An abundance of rain and damp weather, especially when the peaches are ripening, creates ideal conditions for the wholesale propagation of this pest.

In the final stage of the disease, the fruit is reduced to a shrunken, leathery, dark brown "mummy" which often remains clinging to the tree (but more often falls to the ground) during the dormant period of winter. The following spring brings renewed action from the dormant mycelium within the "mummy;" spores are given off and the game is on.

After eighteen months, or during the spring of the second year, the mummied fruit, which in all likelihood is buried beneath the ground, gives rise to the perfect stage of the fungus; a new crop of spores (ascospores) are liberated to join the summer spores in their work of destruction. It will be readily understood how necessary it is to destroy, when possible, all mummied fruit; these should be burned.

In combating brown rot, it must be remembered that, in peach raising communities, the spores are almost constantly present in the air during the summer months.

There is considerable individual variation in the number of spray applications used to control brown rot. Two, during the growing season are, under ordinary conditions, sufficient, but if the disease is unusually prevalent, three or even four may be necessary. Self-boiled lime-sulphur with arsenate of lead, as described in connection with curculio, is used for the first application. This spray corresponds in time with the second curculio spray. The second application is made about four or five weeks before the fruit ripens and is like the first, with the exception that arsenate of lead is omitted.

Dusting, instead of spraying, may be used to check curculio and brown rot. Many of the large orchardists are adopting this method of control. It has its advantages as well as its disadvantages. Dusting is quicker than spraying, but on the other hand, it takes more material, increasing the expense of the operation, requires special apparatus and is unpleasant for the operators. It has not been conclusively demonstrated that dusting is any more effective than thorough spraying. Whether you dust or spray, do it thoroughly, for it pays.

HOW BIRDS HELPED YOU

Now that spring is coming it is well to remember what you owe in the way of kindness to the birds that worked for you through the winter. Here is a list of but a few of those that helped to keep your orchard clean.

Woodpeckers. They destroy bark beetles.

Downy woodpecker. Borerers are his meat. He's "up and at 'em."

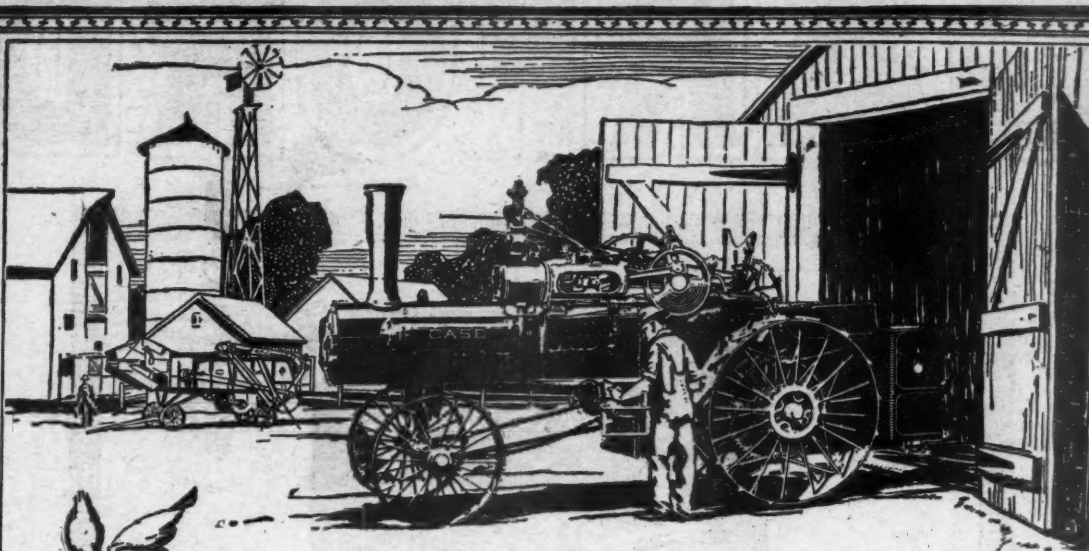
Hairy woodpecker. He paid well for any suet or sunflower seed.

White-breasted nuthatch. Cleans the bark diligently.

Brown creeper. Searches bark for insects and eggs in winter.

Chickadee. Leaves no insect eggs on the boughs.

Hoe the grass away from young fruit trees and protect from mice.



"Tune-up" the Rig

ONLY a few weeks remain before threshing season will be here with a rush. Be sure you are ready. Get your Case "Steamer" out and go over it.

See that the boiler is thoroughly clean inside. Polish piston rod and valve stem. Look for lost motion at both ends of connecting rod, and adjust the brasses if necessary. Re-pack the pump and possibly the governor stem. Clean oil holes and grease cups so that lubricant will pass freely to all bearings. Be sure that leads to water-column are clear. We suggest that you have on hand a supply of water glasses, with proper gaskets. The safety valve is probably all right, but be sure it "pops" when it should. Scrape out exhaust nozzle, giving the steam a clear passage, directly up the stack. Replace worn clutch shoes; also repaint boiler and stack.

Overhaul the separator belting and re-lace or re-place where needed. Wash out every bearing with kerosene and see that oil holes are open. Replace worn teeth in cylinder and concave, and look for harmful endplay in cylinder. 1/64 inch is right. Examine every box and bearing and take up or re-babbitt where needed. Tighten loose nuts and replace lost bolts.

Be sure you have the supplies and tools you will need. It is well to have some spare parts on hand to guard against possible delays. Check up your stock of parts with the list suggested in your "Case Thresher Manual", and order what you lack. If you have no copy of our "Thresher Manual", you should have one, and we will send one on request.

Remember that time is money to the thresherman, and right now is the time to save time.



Look for the EAGLE Our Trade Mark

J. I. CASE THRESHING MACHINE CO., Inc.

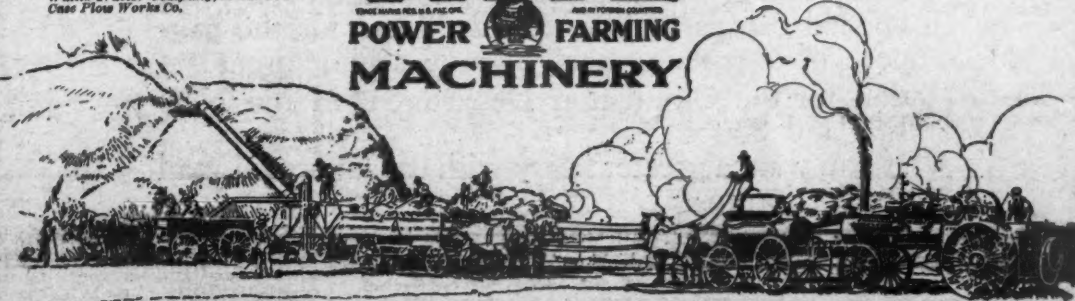
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Making Superior Farm Machinery Since 1842

To avoid confusion, the J. I. CASE THRESHING MACHINE COMPANY desires to have it known that it is not now and never has been interested in, or in any way connected or affiliated with the J. I. Case Plow Works, or the Wallace Tractor Company, or the J. I. Case Plow Works Co.

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MACHINERY

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GARFORD



YOUR crops can't wait and the more time spent on them the bigger the yield will be. Garford ability to render instant service during rush seasons gives you more time and extra profits.

Garford

Lima, Ohio

Results of a recent investigation among four thousand Garford owners show 97.6% are 100% satisfied—proof of Garford Low Cost Ton-Mile.

TRUCKS

ARE YOU SATISFIED?

The leading national fruit publication has just opened offices in Springfield, Mass., for the purpose of organizing a high-grade selling organization for the Circulation Department in the New England States.

If you want a greater salary with expenses paid mail application to-day.

E. H. MOSES

Eastern Circulation Representative

236 Union St.

Springfield, Mass.

A Peddler's Success

By R. B. Rushing, Illinois

FOR years Will Cavitt had weathered the hot sun in midsummer and the sharp winds of early fall, hauling fruits of all kinds from the orchards of Johnson county, Illinois to the towns of Marion and Harrisburg, where he sold from door to door. For years he had been known as a "fruit scavenger," taking such fruit as no one else would buy and peddling it out for what he could get. Several orchard men have regularly sold to him their entire supply of low grade fruit for small sums. Others, whenever they had poor grades of fruit which they could not sell, would call Cavitt on the telephone and make a deal with him to buy.

The long, hard drives, through sun and wind with team and wagon to peddle his stuff were putting furrows in Cavitt's face. But peddling was his business, and like any other business, it had some hard and disagreeable tasks. These things, some two or three years ago caused Mr. Cavitt to go to a motor truck dealer and say that he wanted to buy a motor truck. But Cavitt had a large family and his supply of ready cash was very small so that if he bought a motor truck he would have to have some credit for a part of the purchase price, or else not buy at all.

Personal Credit Good

The dealer, after being told all of the circumstances offered to sell the truck to Mr. Cavitt on condition that one-third of the price would be paid in cash and a good note for the balance. Poor men oftentimes cannot buy such things as motor trucks on credit for the simple reason that they cannot give the proper security. This is not because the poor men are not worthy, but it is a matter of good business for the seller to be made safe in the sale, and this a poor man too often cannot do. This was partly the situation with Cavitt. He had no way of securing anyone in the purchase of a motor truck except in so far as his good name and the confidence of those who knew him would carry. That is one thing which he did possess. He had the confidence of all who knew him. They trusted him at different times for small amounts and quite a lot of stuff and Cavitt had always proved his honesty and industry.

To sum it up, one day Cavitt came home from Marion with a blank note, called on two of the leading fruit growers and laid his plans before them. He said: "I can't secure you. But with a motor truck I can do enough more business to pay us both. I can sell more stuff, can watch the markets closer, cover more territory and take advantage of better markets at towns not so well supplied as those I am now reaching."

No sooner was this plan laid before these men than they both promptly signed his note without a word. In fact, one of them told me afterwards that he could well afford to help Cavitt pay for the truck for he knew it would be much better than a team. So Will Cavitt got the motor truck. He drove it home himself, and until that hour he had never had hold of the wheel of a car.

A Second Truck Is Bought

Cavitt is a small farmer. He gardens quite a bit, has two daughters now about grown and a son coming along. So much more business did Mr. Cavitt do during the first year with the motor truck, that a second one was bought the next year and with it the elder daughter is now serving a larger trade than her father formerly did with the team two years ago.

It is interesting to see the way Mr. Cavitt handles the peddling business. He personally attends to most of the selling. The girls fill the orders. Fruit growers of this part of the country ship their "peddler stuff" to him. He runs in home every two or three days, and when the roads are in good condition he runs in home at the end of each day's work. Usually he works until late as he finds his best sales

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often are made when the miners come in from their work, and on days when he cannot get home he uses the telephone freely to keep in touch with the supplies that are coming.

Truck Saved the Home

The fruit growers here no longer ask Cavitt what he can get for their stuff. They know he will get all there is in it and they ship him their fruit and he picks it up at the station. But in the years Cavitt spent on the wagon, out in all kinds of weather and with the loss of sleep in the late, long drives home, he had begun to suffer from rheumatism. Now that he has motor trucks for his transportation work all is changed. Twenty-five pounds have been added to his weight, and instead of being thin and worn, he is large and stout, and Mrs. Cavitt shows almost as much difference. She has good reason for it too. Before the arrival of their first motor truck they were living in a little house, and a mortgage on the little farm for about all it was worth. She loved this little farm and home, but came very near to having to move when the farm was sold under the mortgage shortly after the first truck was bought.

Many are the nights when she has worked until late in getting the stuff ready for the next day's peddling, only to spend the remainder of the night crying for fear they might never be able to redeem their little home. But all is changed now. In place of the little house, a cozy bungalow is tucked away among the lovely little shade trees, and is paid for. The farm mortgage is paid off. The first truck is paid for and the one that was bought last year could have been paid for, but Mr. Cavitt preferred to use the money on the farm.

This change in two years hardly seems possible. But the large volume of business done with the motor trucks has brought it about. And it has been good for the entire community. Much of the fruit unsalable before, now can be turned into cash, and Mr. Cavitt told me that it was no trick for him to clean up from \$10 to \$50 a day all through the busy season. And that soon counts up.

I don't know that any man could have done better than Mr. Cavitt has. I have peddled, but I feel sure that I could not equal him although I have considered myself to be a good peddler. I have been with Cavitt on his truck and I believe he is about the best seller I ever saw. He does not do much talking, but it seems that when he does speak, he always says just the right thing and nearly always makes a sale. He had worked at the business so long he says he can nearly always tell if a man or woman will buy before he says a thing to them.

Truck Smooths the Way

One thing that has been in Mr. Cavitt's way much of the time is bad roads. It is 20 to 40 miles from his home to most of the towns in which he sells. Often he goes much farther, and most of the roads are dirt, with long rough hills in places. But Mr. Cavitt says he smooths them off with the motor truck. And while all appearances go to show that Mr. Cavitt has done a much more profitable business since he made his first purchase of a motor truck, the local banker told me that instead of being a borrower, Mr. Cavitt now is a good depositor, and a bulky fellow.

Success with Bees

(Continued from page 32)

printed list of beebooks from which a selection can be made.

Buying the Bees

One of the questions most frequently asked is "Where can I buy bees?" Although there are many beekeepers who make a business of selling bees and queens, it is preferable to buy bees near home if possible. Usually it will be found that bees may be had within a few miles of your present location. In such cases the hive entrance can be closed at night

after the bees stop flying. The hive can then be rolled in a blanket to avoid the escape of any bees, placed in the automobile and within a few minutes placed in its new location. Early in spring before weather gets warm and while the colonies are still of moderate strength, there is little risk from wrapping a hive in a blanket to move it a few miles. Later when the weather gets hot and the hive is crowded with bees, more care will be necessary to avoid smothering them. If the bees are moved more than a mile there is little danger that the bees will be lost by returning to the old stand. If they are only moved a short distance, however, many of the field bees will return to the former location, and it is necessary to take care to compel the bees to notice their new position. To move the hive only a few rods is far more difficult than a much longer distance. In such cases it is best to place the hive in a dark cellar for a day or two. When it is placed on its new stand a box should be turned over the hive with a board removed at the bottom to permit the bees to fly out. The object of all this

is to give the bees such an impression of being moved, that they will take notice of the location of the hive before leaving for the fields.

If no bees can be found near, it may be necessary to order them from a distance. The common practice nowadays is to buy a package of bees with queen. Not less than two pounds of bees should be purchased for each hive. Where package bees are purchased they should be delivered early in the spring, in order to make sure there will be time to build up a colony and store some honey. The hive should be ready when the package arrives and part of the frames removed. The cage should be opened and placed in the empty space within the hive. The bees will leave the package slowly, and be much less likely to be lost than is the case where they are shaken from the package. It is much better to have drawn combs on which to place them if possible, but if no drawn combs are available they can be placed on full sheets of foundation in wired frames.

Don't worry about the kind of bees you are getting. While Italians are

generally regarded as more desirable because they are gentler and better honey gatherers, one need not be too particular at the start. It is seldom that one can find just what one wants, and after one has learned something about the bees and has a good start, is time enough to buy Italian queens and improve the stock.

It is well to start with from three to ten colonies. There are so many things which can get the matter that where one starts with a single colony, he is likely to find himself out of business before the season is over. The writer started two different times with only one colony and both times lost them. The third start was made with eight colonies and proved a great success.

When the bees are brought home, place the hives in a sheltered situation where there is protection from the cold north and west winds of spring. Partial shade for summer is also desirable. Try to place the hives where the bees will not annoy persons passing along the street or going about their work on the place.

Fairbanks-Morse

"Z" Farm Engines





Why Over 250,000 Farmers Endorse "Z" Engines

"Z" Engine perfection—nothing else—sold over a quarter of a million American farmers. Greater power and lower operating expense have established the supremacy of this master engine.

This rare combination of scientific design and construction—efficient operation—right price—successfully answers every farm engine need.

The "Z" is serviced by 400 Bosch Service Stations all over the country, in addition to the efficient Fairbanks-Morse dealer service.

Go to your dealer—see the "Z"—find out why it should be a part of your farm equipment.

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1 1/2 H.P., \$75.00
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All F. O. B. Factory

Dried, Evaporated or Dehydrated

By Arthur W. Christie, California

The removal of moisture by drying in the sun has been used as a method of preservation for fruits and vegetables since Biblical times. We are now witnessing the phenomenal growth of a new industry which bids fair to disturb and possibly to overshadow the earlier methods. This industry proposes to dry out fruits and vegetables by artificial means and not to depend on "old Sol," who sometimes makes his disciples. A large number of "drying" machines of varying construction have already appeared on the market, and frequently additions to the family are reported. A variety of terms has been used in naming these machines as well as their products. The most common terms are "drier," "evaporator," and "dehydrator." Since there are no well defined distinctions between these various terms, the use of a number of different terms meaning essentially the same thing is confusing.

This confusion was most noticeable at the recent convention on evaporation of fruits held in San Jose, February 7, 1920, under the auspices of the Agricultural Extension Division of the University of California. Several of the speakers used the terms "dried," "evaporated," and "dehydrated" indiscriminately, it being often impossible to ascertain the speaker's real meaning. In order to clarify the terminology used in fruit drying a committee on nomenclature was appointed by the chairman of the convention, Professor T. Clarke. The committee included its membership a representative of the Agricultural Experiment Station, the United States Department of Agriculture, and several men closely in touch with the commercial aspects of the situation. The membership of the committee was as follows: Chairman, W. Christie, Instructor in Fruit Products, University of California, Berkeley; P. F. Nichols, Division of Hydration, Bureau of Chemistry, United States Department of Agriculture, Atascadero; E. M. Sheehan, dried fruit broker, San Francisco; S. C. Adams, manager of dried vegetable department of E. Clemens Horst Company of San Francisco; H. C. Rowley, editor of "California Fruit News," San Francisco.

After thoroughly investigating the nomenclature of dried fruits and vegetables as well as the various devices for their production, this committee makes the following recommendations: 1. The same drying nomenclature will be applied to fruits and vegetables.

The term "Dried" is applied to all fruits and vegetables preserved by removal of moisture, irrespective of the method of removal.

There are but two general classes of dried fruits or vegetables, namely, those dried principally by solar heat and those dried principally by artificial heat.

The class dried principally by solar heat shall be designated "sun-dried," by which is meant the removal of moisture by solar heat without control of temperature, humidity, or air.

The class dried principally by artificial heat shall be designated "evaporated" or "dehydrated." The committee find at this time no valid reasons for distinguishing between "evaporated" and "dehydrated." These two terms are synonymous.

The above recommendations were submitted to the College of Agriculture of the University of California. H. J. Webber, Director of the Agricultural Experiment Station, makes the following statement:

The nomenclature proposed by the committee has also been adopted by a committee of the College of Agriculture of the University of California in their publications on dried fruits and vegetables."



Massachusetts Fruit Grower Finds Many Uses for His White Truck

CHAS. W. Mann, Vice-President of the Massachusetts Fruit Growers' Association, purchased a White 2-ton Truck in 1911 and has since run it nearly 100,000 miles. Eight years of hard service have not lessened its earning power.

In one season, Mr. Mann sold from his truck 50,000 baskets of berries and 4,000 bushels of tomatoes. For this use he has a special double deck body. During the apple season, the truck collects thousands of barrels of apples from orchards within a radius of 15 miles and delivers them to nearby markets or to Boston, 30 miles distant. Often two round trips a day are made to Boston.

The truck with interchangeable bodies is used for all kinds of hauling around the farm, even to bringing hay from the fields and delivering it to market. As high as 150 tons of hay are hauled per season.

These facts show plainly the adaptability of White Trucks to the requirements of Fruit Growers not only in hauling fruit but for general utility work as well. In busy seasons the farmer is sure of getting his produce to market in volume at the best selling time.

Cost records everywhere, in all lines of business, show that White Trucks do the most work for the least money.

THE WHITE COMPANY
CLEVELAND

White Trucks

The nomenclature committee recommends that the above definitions be adopted by all concerned. The committee feels that this would largely eliminate the existing confusion.

HOW DO YOU MAKE THEM?

Here is a letter from a Michigan subscriber, and we would like to hear from many of our readers who can tell us of their own experiences in doing any of the cement work this subscriber asks about. In his letter he says: "Why can't we hear through the AMERICAN FRUIT GROWER from our brother readers more about cement posts for our orchard farms and poultry farms—the kind to make right on the farm at odd times, the size for the end posts and the reinforcement that is needed. Cement posts will never

rot. Wood posts are getting pretty high. Something must take their place."

Now, who will come forward with his experience in making cement posts, or doing any other kind of cement work about his farm? We will pay \$5 for the best letter of about 500 words, \$3 for the next best and \$2 for the third best letter that reaches us before June 1st.

WILL BUILD CONCRETE ROADS

Grayson county, Texas, has 350 miles of gravel roads. "When we built these gravel roads," writes John E. Surrat, "we thought we were building 'permanent roads' and also that we were going our limit on road expenditures. Time has taught us two things: First, that when we get out of the

mud onto a gravel road, we have such an immediate and tremendous increase in traffic that a more substantial road material than gravel is needed. Second, that the demand for increased mileage and for better and more substantial roads becomes practically universal. Therefore, we are now discussing the matter of building more gravel and also building concrete roads for our heavy travel."

In San Joaquin Valley, Cal., it is expected that cull, second crop and slightly damaged table grapes will be dehydrated in large quantities. Careful records indicate that the total expense of dehydration is around \$3 per ton and that the time necessary for dehydrating a ton of grapes is from 18 to 24 hours.

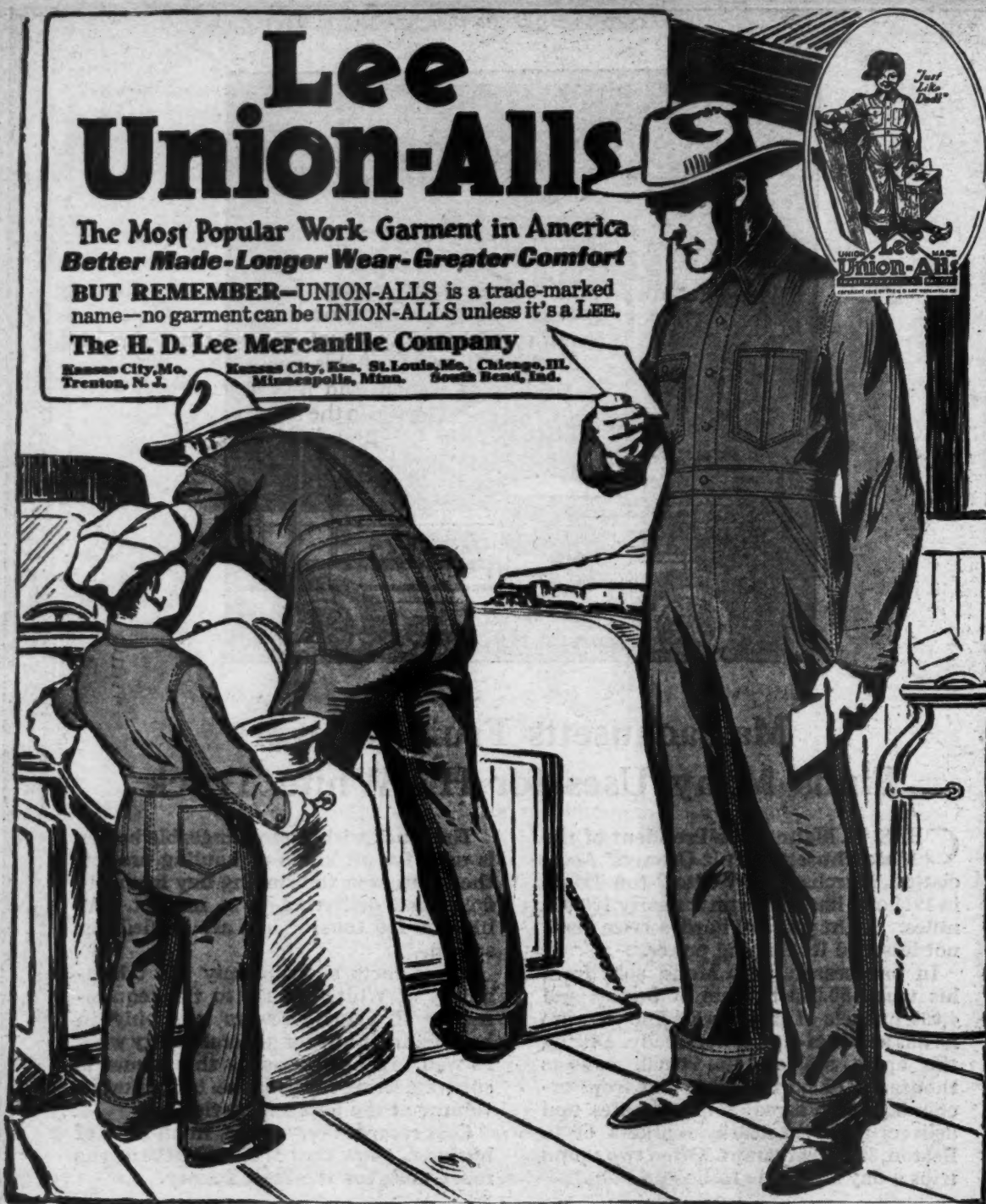
Lee Union-Alls

The Most Popular Work Garment in America
Better Made-Longer Wear-Greater Comfort

BUT REMEMBER—UNION-ALLS is a trade-marked name—no garment can be UNION-ALLS unless it's a LEE.

The H. D. Lee Mercantile Company

Kansas City, Mo. Kansas City, Kan. St. Louis, Mo. Chicago, Ill.
Trenton, N. J. Minneapolis, Minn. South Bend, Ind.



Protective League

(Continued from page 38)

what shall constitute a legal fence in the town; and in counties not under township organization, the power to regulate the height of fences shall be vested in the county board.

SEED NOT AS REPRESENTED

Q.—I ordered some seed corn from a seed man in Iowa. It was warranted as No. 1 stuff carefully selected. The seed is not at all as represented and is of very poor quality, totally unfit for seed. The bag was ripped and fully a third of the grain was lost. Do I have to take the corn?—N. T. M., Logan, Ohio.

A.—You do not have to take the corn if it is not as represented. Insist on good seed before you plant it.

BRICKYARD FUMES AGAIN

Q.—A brickyard has been built directly west of my farm. There is danger that the fumes from the brick kilns will damage, if not destroy, my apple orchard. Can I do anything to prevent this?—L. P., Huntington, W. Va.

A.—While you can hardly have the brickyard declared a nuisance and thereby have it abated, yet you certainly are entitled to damages for whatever injury suffered to your orchard from the effects of the fumes on your trees.

ABOUT A LEASE

Q.—I leased a farm last fall for one year. The farm has now been sold and the purchaser wants me to move off immediately, saying that he wants to put in the corn crop as well as the other spring crops. Can he make me leave before my year is up?—J. N. M., Mattoon, Illinois.

A.—Unless your lease specifies that you must give up possession in case the land is sold, then you are entitled to stay on the farm until your lease expires. The terms of the lease govern the situation. Examine it carefully and stand by your rights as expressed in the lease.

WHEN CHICKENS TRESPASS

Q.—Some of my neighbor's chickens were apparently poisoned from drinking spraying fluid while I was spraying my orchard. There was no intention on my part to poison them and I didn't even notice that his chickens were in the orchard at the time. Am I responsible?—P. L., Crawfordsville, Indiana.

A.—You are not responsible for the loss of your neighbor's chickens. He was guilty of trespass when he allowed his chickens to come onto your premises. While you have no right to poison them deliberately yet you do have a right to spray your trees and if the chickens get poisoned while trespassing upon your property then you are not liable.

TRACTORS TO PERFORM AT MISSISSIPPI MEET

An attractive demonstration in connection with the Horticultural Convention at Jackson, May 11-12, is being staged by F. C. Cottrell, Extension Specialist in Farm Engineering. Some standard types of orchard and garden tractors are to be given a work-out using with them suitable implements for the various kinds of work to be done. The garden tractor will prove to be a novel feature. This little machine must be seen to be appreciated.

As stated in the March issue of the AMERICAN FRUIT GROWER, "many of the large peach growers in Georgia are now using tractors to pull the plows, and other cultivating implements. The testimonials given in this issue by commercial fruit growers everywhere, indicate that tractors are proving themselves all but indispensable for orchard work. If Mississippi horticulturists intend to cope successfully with present labor shortage, it seems evident that labor-saving machinery and improved methods will need to be more widely adopted. The adjoining lands of another, should be deemed legal and sufficient fence. Provided, that in counties under township organization, the electors, at an annual town meeting, may determine



Pay Nothing Until 60 Days

Now is the time you need a good, reliable sprayer for fruit trees, vines, shrubbery, for white-washing barns, chicken houses, hog sheds, etc. Here's a sprayer that will do the work thoroughly and quickly and pay for itself in increased profits. Prove it at our risk. Just send coupon—no money—and we will ship sprayer promptly. Use it 30 days free. If you then decide to keep it, make first small payment in 60 days, balance in 60-day payments, giving you nearly a

Full Year to Pay Majestic All-Purpose Sprayer

This hand sprayer is just what you want if you haven't enough work to keep a power sprayer busy. Working parts made of brass. Specially constructed pump with high grade 4-ply rubber tubing. Automatic shut-off nozzle with non-clog spring cap. Light convenient. Easily taken apart for cleaning. Contents kept continually and thoroughly mixed. Sprays to the last drop.

FREE Book of Farm Necessities

Shows wonderful bargains in gas engines, cream separators, drills, cultivators, saw frames, circular saws, feed cookers, paints, roofing, etc. Write postal for free copy. Send today for this sprayer and take nearly a year to pay if you like it. Just the coupon. No money.

—THE HARTMAN COMPANY—
3300 LaSalle St., Dept. 2663 Chicago
Send Sprayer No. 435A/MA/4. If satisfactory I will pay \$2.00 in 60 days; balance in 60-day payments of \$2.00 each until price of \$4.50 is paid. Otherwise I will return it in 30 days and you pay transportation both ways.

Name.....
Address.....

Less Work With The LIBERTY GARDEN CULTIVATOR

The perfect tool for all-around garden cultivation. No downward pressure required. The Liberty Hand Cultivator is equipped with a special sickle design of cutting teeth which make quick and thorough work of destroying weeds. The teeth are of unbreakable malleable iron, with sharpened V-shaped cutting edges. Pulverizes top soil into perfect mulch which stimulates plant growth.

GILSON GARDEN TOOLS

(Hand or Wheel Outfits)
A complete variety for intimate garden cultivation. Send \$1.55 for 7-tooth Liberty cultivator (under money back guarantee), or have your dealer order for you.
J. E. Gilson Co.
Makers of Garden Tools
Port Washington, Wis.

for May, 1920

The Home Vegetable Garden

By J. T. Rosa, Jr. Missouri Experiment Station

ONE of the most interesting and important groups of vegetables is the "Cabbage tribe." There are many good garden crops included in this family which serve various purposes, such as root crops, salads, greens, etc., and which are noted for their hardiness and universal use. Perhaps the cabbage itself is the most important single crop. As an extra, early spring crop it is dependable and may also be made a valuable crop to grow commercially. As a summer and late fall crop for kraut making and winter storage, cabbage has its place. Every gardener will want a few heads of the early crop, and more of the late crop, for even if cabbage has unjustly acquired the reputation of being a "plebeian" vegetable, it can be made a delicious food. Most people spoil good cabbage by overcooking which develops the unpleasant odor.

The main point in growing early cabbage successfully is to have good, strong, well-hardened plants ready to set early in the spring, as this plant as well as other members of the cabbage family, grows to perfection in the cool, moist weather of the spring. Seed should be sown at least two months before the plants go into the garden. A hot bed is the place to start the plants, although a small number may be started in a window box. As soon as the plants develop a third leaf, they should be transplanted to a coldframe.

The frame should be located in a warm, sunny spot, and covered with hotbed sash. The soil in the frame should be medium rich, of a light sandy texture, so that the plants will grow fairly fast, and make a good root system. Ten days before transplanting the sash should be removed to check the growth of the plants and harden them off before setting in the open. Late afternoon or a cloudy damp day is the best time for transplanting all vegetable plants. In the latitude of St. Louis, well-hardened cabbage and cauliflower should be set out the latter part of March. The later the plants are set, the smaller the heads will be.

Needs Rich Soil

For the middle west the Copenhagen Market variety is without equal as an early variety. The heads are good sized, round and solid, and will stand for weeks after being full grown. A larger but later sort that is excellent for midsummer is Allhead Early. I grew heads of this variety last year weighing 16 pounds. The main cultural requirements of cabbage, after securing good plants, are good, rich soil and plenty of moisture. The moister part of the garden should be used for cabbage and related crops. Rotten stable manure, applied in liberal quantities before setting the plants, is the best way to insure a big crop. In case of a dry spring, irrigation is very beneficial. In growing the fall crop moisture supply, at time of plant setting in June, is the limiting factor. For this fall crop, such varieties as Hollander or Danish Bull-head are desired because of their good keeping quality. The plants are grown in an open bed or coldframe and should be transplanted to the field before the first of July. This means that seed must be sown by the middle of May.

Grow Some Cauliflower

The cauliflower takes next place to the cabbage. While there is a tendency to regard it as a tender crop, there is no reason why every gardener in the middle west should not grow this delicious vegetable to perfection. It is undoubtedly the highest quality vegetable in this group, as witnessed by the high prices which are paid for it.

For growing good cauliflower, the requirements are the same as for cabbage, only intensified. Perhaps the main point is to get an early start so that the "curds" will form under the favorable conditions of cool, moist weather existing in spring. Hot weather causes damage quickly. The plants develop in the garden much faster than cabbage, under favorable conditions.

With a Federal on the Farm

Those big time consuming and therefore costly tasks—the occasional trip to a distant and ready market—heavy and light hauling between barn and fields on the farm—the building of a road, and hundreds of other big and little chores on the farm—all become tasks of surprising simplicity and economy with a motor truck to do the job.

It is this real "handy man's" ability of the Federal to do most any task that is asked of it, that has made the Federal such a favorite on the farm.

Federal trucks are made in from one to five tons capacities. Tell the Federal dealer nearest you the transportation problems of your farm. He will recommend to you the capacity and body that most nearly meets your requirements.

"Traffic News," a Federal magazine of haulage will tell you of the numberless ways in which a motor truck can save you valuable time and money on the farm. It will be sent you monthly, without charge, if you will request it.



This is the sign of the tenth year Federal, a sign significant of ten years of success in every field of truck transportation. You will find it attached to every Federal purchased this year. Get acquainted with the "Tenth Year Federal!"

FEDERAL MOTOR TRUCK COMPANY
DETROIT, MICHIGAN



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STEAM PRESSURE
CANNERS AND COOKERS

Can And Sell Your Surplus Fruit

With a National Canner you do it easily and profitably. Steam pressure assures sterilization. Efficient in cooking cereals and other foods.

Beat the High Cost of Living

Can fruits and vegetables for the market.

Write for Booklet.

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Ask for big Catalog 107 Today

Army Shirts	\$2.50
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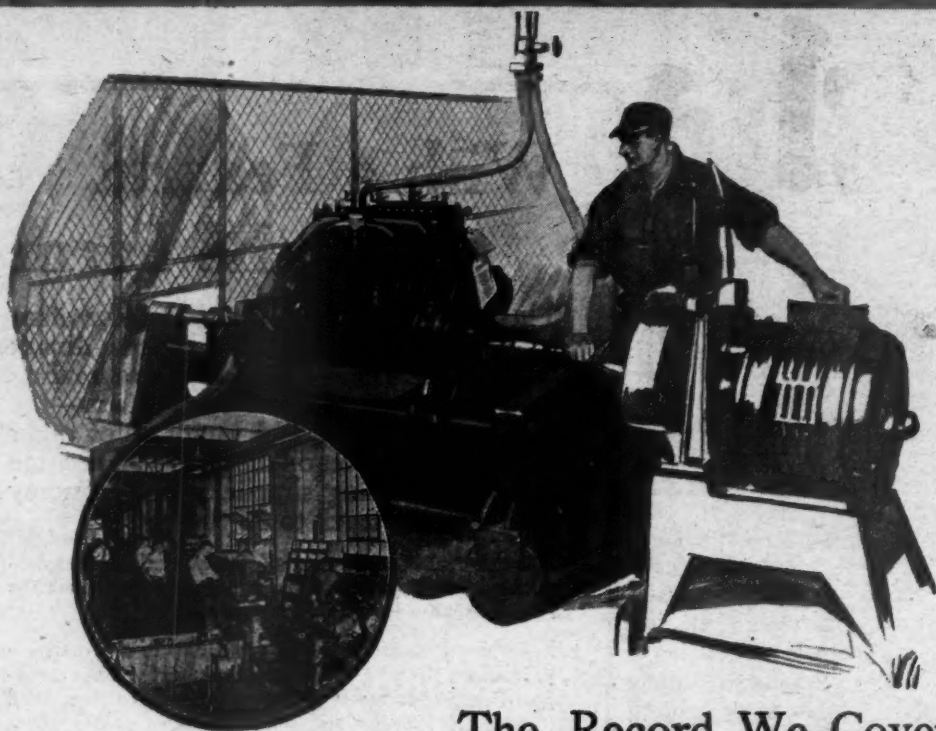
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If you are not satisfied with your present income write US—

Men in all walks of life are joining our selling organization every day. We prefer men who have their own cars. Salary and expenses paid.

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High Quality Motor
Trucks Equipped with

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are on sale everywhere.
Ask us for a complete
list of these trucks with
their respective ratings.

The Record We Covet

To establish new records in Numerical Production of Engines is not the aim of this Corporation. Our strife is toward Quality, not Quantity.

We have, therefore, undertaken contracts to supply Hinkley Heavy Duty Automotive Engines this year to but a relatively small number of Truck Manufacturers.

These Truck Manufacturers are, you will recognize, among the established Leaders. The other units of their product have naturally been chosen with similar regard for highest quality and performance in Mechanical Transport.

You can be sure, therefore, that a Hinkley-Engined Truck will live up to every reasonable claim made by the man who asks you to buy it.

HINKLEY MOTORS CORPORATION
Detroit



American Fruit Grower

When the white curds begin forming the plants must be watched closely.

As long as the weather is cloudy, no blanching is necessary, but if the weather is mostly clear, the heads should be carefully blanched as soon as the little white curd commences to form. The best way is to gather the loose outer leaves and tie them together near the tips, or pin loosely with a tooth pick, or three or four of the larger outer leaves may be bent over the curd, snapping the mid ribs so the leaves will stay in place. Blanching results in a much larger, whiter curd. Only a few days are required after blanching to complete the maturing of the curd.

One of the most dependable varieties of cauliflower is "Early Dwarf Erfurt," which should produce trimmed heads weighing at least a pound under favorable conditions. Since seed is very expensive just now, it is probably cheaper to buy a few plants, although the plants can be grown easily enough, in exactly the same way as cabbage, and at the same time.

Kale for Variety

Another relative of the cabbage is "kale," which is often used for greens, either in late spring or late fall, as two crops are grown, in the cooler portions of the year. In the south, the fall crop of kale is left standing in the open all winter as the plant is quite hardy; in fact, the quality is much improved by freezing.

Kale is grown by sowing the seeds in the open, about April 1, or August, in the case of a fall crop. Also the seed can be sowed in a hotbed and transplanted like cabbage, early in spring. There are many kinds of kale, varying in size, color and degree of curliness of the leaves. The standard garden sort is Dwarf Green Curled Scotch, to give its full name. The German or "Blue" Kale is hardier, but of poorer quality. Only the half-grown tender leaves should be used as the older leaves become coarse and stringy.

The advantage of growing kale in the garden is that the leaves can be picked off the plants and used at just the right stage, and another crop of leaves soon develops. In this way the spring crop of kale can be made to last until well into the summer.

Some Good Greens

Another plant, much used for early spring greens, is mustard. When seeds of this crop are sown in the open garden in early spring, the plants develop very rapidly, so that "greens" of good quality are available in a few weeks. Mustard is distinctly a cool-season crop as the plants run to seed and the leaves become hot and pungent upon the approach of hot weather. "Black Chinese" is a good variety. When the plants bolt up seed stalks in the late spring it is a good idea to leave a few to mature seed. The seeds are produced abundantly, and can be ground, mixed with salt, spices, vinegar, and used as a condiment, much stronger than the ordinary mustard paste on the market.

Closely related to mustard is Chinese Cabbage, one of the newer vegetables about which much has been written in these columns during the past year. Chinese cabbage can be grown as a coldframe crop in early spring, spacing the plants seven by seven inches apart. When grown at this season, it may be used for greens or for salad purposes, where the loose, erect heads are well formed. Also seed may be sown in the garden in the spring, although the planting is likely to bolt to seed prematurely.

The main use for this crop is as a salad, planting seed during August, thinning the plants to stand eight inches apart. In the cool, moist weather of the late fall, the plants form heads weighing four to eight pounds, the leaves of which are superior to head lettuce as a salad. The outer leaves can be used like ordinary cabbage, but tenderer and more delicate. By protection with a little straw, the heads can be kept in the open for weeks after the first freeze.

Brussel sprouts are rather unfamiliar to middle western growers, as our climate seems unsuited for this crop. The "sprouts" or miniature cabbage heads formed on the main stalk are one of the most delicious of vegetables. The season for this crop is the fall, starting plants in July in the same way as cabbage.

Sell Us Your Spare Time

We will pay you a good price for it.

Scores of spare-time representatives of AMERICAN FRUIT GROWER are earning \$5, \$10, yes, and \$15 a month working for us. Why not you, too?

August Riemenschneider is a good example of the man who knows how to cash in on his spare time. He is a nursery salesman, farmer and orchardist, but fully appreciates the possibilities of the work and has enjoyed good success in soliciting subscriptions in connection with his nursery stock.

You will like the work and be surprised to find how quickly the commissions mount up. If you can devote all of your time to our work we have an even better proposition. Write for details.



AMERICAN FRUIT GROWER,
416 State-Lake Bldg., Chicago, Ill.

Gentlemen: Please tell me how I can increase my income representing the AMERICAN FRUIT GROWER.

☐ FULL TIME.

☐ SPARE TIME.

Name _____

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The Only Log Saw
With "Arm Swing" Stroke and Lever Controlled Friction Clutch for Starting and Stopping Saw.
Write for Prices and Description of this Fast Cutting, Practical One-Man Outfit.
WITTE ENGINE WORKS
2146 Oakland Avenue Kansas City, Mo. 2146 Empire Building Pittsburgh, Pa.

Quality First
Boston Garter
Velvet Grip
GEORGE FROST CO. MAKERS BOSTON

Kindly mention American Fruit Grower when writing to advertisers.

The Orchard Home

A Section for Orchard Women and the Children
 Edited by Mary Lee Adams

What About Our Schools?

OUR PRIZED public school system is in danger of disintegrating through the niggardly policy toward teachers. Let us hope that alarm for the children's future may lead to some substantial reform before too late. If all capable teachers are allowed to enter other fields for lack of a living wage in their own, it will be long before the ranks can be suitably filled again, and it will be at a fearful price in neglected children as well as in mere money.

At last teachers in many places have made their voices heard in strikes or threats of strikes. They should have expressed themselves in this way long ago, but there is a dignity about the profession that makes such crude methods revolting to the majority of teachers, and not until pushed to the wall did they threaten to strike.

Even the clergy have indicated a hearty appreciation of the fact that the bread of life cannot fill empty stomachs nor, in the case of teachers, can the feast of reason feed the faculty. That some states still miss the point is shown by a recent increased school appropriation in a southern state, which increase is to be applied to the normal schools on the theory that what teachers we have now are getting all they are worth and what we need is more teachers.

Certainly many of them are getting all they are worth, for but a few of real capacity have been sufficiently devoted to stand by the children. The capable teachers have gone into more remunerative jobs and so will the capable normal school graduates, unless salaries rise before time for them to decide upon their life work.

Due Consideration for All

OUR IDEAL of what is called a well-bred man or woman, must have changed much since the olden days if we believe the romances of that period. According to these, the more lofty a man's station the more he stormed at those whom he considered his social inferiors. Upon the least provocation he exploded with "What Varlet! Would'st delay to do my bidding? Hither minion, and that right humbly, else thy ugly head shall roll from thy crooked shoulders." By all accounts the varlet thus addressed failed not to step forward, but such methods of winning obedi-

ence are happily not in favor in our country.

A year before the great war broke, a gentlewoman (in the literal sense of a woman of gentle spirit), one who deserved a better birthright than her German nativity, commented upon the difference between the American housewife and the German hausfrau. She said she had observed that our women seldom shout when addressing the cook or maid. "But why should they shout?" she was asked. "Why, indeed," she replied whimsically, "but the German woman would not think she was managing her household at all efficiently if she were not constantly spurring them to activity with such endearments as DUMKOPF, BLOCK-HEAD, FOOL. I think your way is much better," she sighed.

And lately we've wondered if this simple comparison between our mental attitude and theirs did not explain some of the surprising psychology of that misguided nation.

Men Owe Support to Family

A NOVEL and interesting verdict was recently rendered by the jury on a suicide case, in which they expressed the opinion that the person whose neglect had prompted the deed was guilty rather than the one who had performed it.

A woman, deserted by her husband, and in despair at her inability to pay her mortgage and care for her three small children on the pitiful sum sent her monthly by their father, turned on the gas and put an end to the hopeless struggle for herself and little ones.

The jury learned further that, in addition to sending his family what they termed "a paltry sum," the man had written his wife that he wished her to obtain a divorce in order that he might be free to marry another woman whom he had met. In view of the facts, the jury placed the blame squarely on the man's shoulders and found no word of reproach for the dead woman. They, moreover, voiced the opinion that "an example should be made of men who treat their families in this manner."

That a far different judgment might have been rendered not so long ago, is shown by the words of the coroner, who said, "The verdict to my mind, indicates a new era in American life. I am proud of that jury." He added that "Men should be made to support their families, and men

who drive their wives to suicide should be punished for it."

We think this story reflects credit upon American men. To be sure, one failed lamentably in his duty to his wife and family, but there were found 12—or 13 including the coroner—who placed themselves on record as condemning him totally and inclined to punish him for his heartlessness.

They Teach So Much

THE wife of a successful farmer asked him why he spent so much time reading advertisements in his paper. "Because they teach me so much," he replied. Advertising has grown, indeed, since the days when it was an unattractive and often unreliable exploitation of wares and nostrums. Today the best talent of the keenest minds is employed to make advertisements so attractive that no one will miss their message. Their reliability is guaranteed by the publication that prints them. And what a fund of information they contain! Pick up any good magazine of the month and take note that the knowledge of many essential things would never have reached you without them.

What would you know, for instance, about the new churn that spares you so much labor, about that improved incubator that saves so many chicks, what about the vacuum cleaner, the electric washer, the becoming veil, the best spray for your roses or the kitchen garden? What would your husband know of power sprayers, trucks, tractors, fertilizers, all the latest and best time and money savers, except through the advertising columns? It has been said, and with a large element of truth, that if every age since history began, had used advertising to the same extent as the present, and if those advertisements had been preserved, we would have at hand a mass of historic facts unrivaled by any written volume.

In a glow of enthusiasm P. H. Lowrey wrote:

I read the advertising page
 And so I get my money's worth;
 I am acquainted with the age,
 I read the advertising page;
 I know when things become the rage
 In all the ends of all the earth;
 I read the advertising page,
 And so I get my money's worth.

Langhorne, Bucks Co., Pa.
November, 13, 1919.

Hercules Powder Co.
Wilmington Delaware.

Gentlemen:-

I decided to set out a Peach Orchard. I prepared the ground and then sent to your Company for instructions for using Dynamite, blew out the holes and put in the trees. They began to grow at once, and grew finely and were much admired by everyone. The second or third year they began to bear. The fruit was large, beautifully colored and of a delicious flavor. No finer peaches were grown in this section.

Very truly yours
(Signed) Rev. Maris Graves.

"That's the Way They Talk"

"Here's a letter from Rev. Maris Graves of Langhorne, Pennsylvania. Read it and see what he thinks of

HERCULES DYNAMITE

"Sign the coupon and mail it today. The Hercules Powder Co. will send you free a copy of 'Progressive Cultivation'. This tells you all about the use of dynamite on the farm and in the orchard.

Send today for this book—*You need it.*"

Hercules Dynamite is for sale at leading dealers.

HERCULES POWDER CO. 1000 Orange St., Wilmington, Del.

Gentlemen: Please send me a copy of "Progressive Cultivation."

I am interested in dynamite for _____

Name _____

Address _____

Our Dollar Saving Coupon

The annual price of American Fruit Grower is \$1.00 a year. Why not save one dollar by sending us a three-year subscription for which we will accept \$2.00, or you may send us two new yearly subscriptions at \$1.00 each and get your own subscription one year FREE. USE THIS COUPON and save a dollar.

AMERICAN FRUIT GROWER,
CHICAGO, ILL.

Enclosed find \$_____ for which enter the following subscriptions to American Fruit Grower for the term of _____ year.

Name _____ St. or R. F. D. _____

Town _____ State _____

Name _____ St. or R. F. D. _____

Town _____ State _____

Name _____ St. or R. F. D. _____

Town _____ State _____

Kindly mention American Fruit Grower when writing to advertisers.



SPRING HOUSECLEANING

What do you suppose first suggested spring housecleaning to women? The idea must have dawned on them very early in the era of walled dwellings. Possibly even the cave dwellers got busy throwing out bones when the weather turned warm enough for them to feast outside.

It is not just because stoves have to be moved and carpets taken up, that we feel we might just as well freshen up the whole house. Rather the suggestion has come from the habit of nature herself to clean house in the spring. March winds sweep the land clear of dead leaves and accumulated trash, April washes the skies and sluices the gullies, May prints fresh flowers all over the face of the earth. Then comes the impulse to sweep the dust out of the house, scrub the floors, polish the furniture and let the windows go wide to the sunshine and sweet, healthful air.

Most of us look forward to this annual cleaning spree with mingled joy and dread. We love the result yet we rather shrink from the effort involved. But, regard it as women may with tempered joy, it is accepted that the men of the household shudder at the mere thought. They are represented as moping in a dreary waste of waters and buckets, with no quiet place where they may sit and smoke a peaceful pipe.

That man has groaned under the unkindness of woman in this respect for certainly more than a century, is recorded in the quaint plaint of Isaiah Thomas, who in his almanach for 1803, thus pours out the grief of a tender but bruised spirit:

"My wife's of manners gentle, pure and kind;
An honest heart, a most ingenious mind;
Beauteous and gay, domestic without vice;
And but one fault, indeed she's over-nice.
Mops, palls and brushes, dusters, mats and soap,
Are specters of control, her joy, her hope;
Each day we scrub and scour house, yard and limb;
But on the Saturday, ye Gods! we swim."

Even though cleanliness be next to godliness, there is doubtless such a thing as being "over-nice," and the woman who upsets her house daily is anything but a restful influence. At the same time, one of the surest ways to make spring cleaning light, is to keep the house clean all through the winter. A little a day keeps the cobwebs away. Unless there has been neglect during the cold, house-bound months, a first-rate housecleaning can be readily accomplished without making the male members of the home miserable. Plan a little carefully so that the dining room at least may be set to rights before the next meal and, if perforce the living room must be upset at a time when father is accustomed to grab the newspaper and his pipe and slump in the easy chair, see to it that the chair at least shall be where there is quiet and order.

We are fortunate in these days because there is small reason for us to go through the drudgery that was necessary in old times. Modern conveniences make work so much lighter. When hot and cold water can be drawn at will on any floor of the house, what was formerly the heaviest part of the whole job, the carrying of full water buckets for a distance, becomes negligible.

Another grand help is the vacuum cleaner. The home fitted with electricity permits the use of the most efficient type, with the least trouble. When we consider that at least 150,000 farm homes are equipped with

their own electric plants, and the several hundred thousand more power from neighboring towns and villages, we realize that the use of electricity on the farm is sweeping fast over our country. Even the vacuum cleaner is a great help and will do excellent work without the same heavy demand on strength as the older forms of brooms.

Having a vacuum cleaner, it is probable that your heavy draped rugs or carpets, are in fairly good condition at the time you want to take them down—or up—and pack them away for the summer. Another helper is the light paddle-shaped stress beater, made of wire or cane. An astonishing amount of dust will follow a fairly light stroke with this implement.

Having removed all the dust from such things as are to be folded away or brought out for the summer, there is nothing so good as a follow-up treatment as a good sun bath. Mattresses, particularly, should be placed for hours in the full sunshine. The introduction of twin beds in place of the huge old "double bed," mattresses are not nearly so heavy to move as formerly. Even the mattress of the old-fashioned big bed is now generally in two parts and easily handled.

Blankets are greatly benefited by this same sunning process. In chamber homes there is always space of doors for this. Dr. Sun is the greatest germicide known to man, and, with his partner, F. A. Sweetens, heals, purifies and, instead of sending in a doctor's bill, he saves us from them.

When packing away blankets careful to protect them from moth and mildew. Gum camphor is one of the best preservatives and also the most costly, moth ball, which, like the candle, is a "noble smell," is thoroughly efficacious. An abundance of lavender, lemon verbena is said to be equally serviceable and far more agreeable, but we can't always get a supply of these. After all, if the woolens are free from any eggs, they will be right wrapped completely in newspapers. Let them be tied up from the air and, if you wish, in cotton-cloth cover over the woolen winter underwear or suits and dresses may be safeguarded from moths in the same way.

Before spreading the light summer rugs, give the floor a rub with Olin mop and oil. This will freshen painted or varnished surface and will give a good gloss to smooth, unpainted boards. Should not be applied too heavily, it may then have a tendency to get to the shoes that walk over it. Brighten the furniture with such polish as you know to be reliable. A little paint goes a long way. Nothing else can make such an improvement in appearance at a cheap price.

The more your windows are from now on the better, and the panes should be light and warm. There are literally hundreds of reasonably priced, pretty and satisfactory materials for this purpose. See them with an eye to the color of the furniture of the room in which they will hang. If your home is heated by means of stoves, and the climate is at all damp, it will be the stove from rust if it is well oiled or greased before being stored for the summer.

We have to remember that this is the time for all manner of life, and if we are to be free of roaches, flies, etc., we must take necessary precautions. All of the insect pests are great trouble and the greatest of these is flies.

BEAUTIFYING THE HOME & GROUNDS

By Mary Lee Adams

To our readers we will send free upon request a book on "Ornamental Planting." For those who wish an individual landscape plan, we will be glad to have one drawn if they will send us a rough sketch of their home grounds, showing location of buildings, extent of area to be planted, and mentioning the sum they expect to invest in trees, shrubs and flowers at this time. Address Mary Lee Adams, American Fruit Grower, Chicago, Ill.

FLOWERS FOR THIS SUMMER

GARDENERS by all means should be, and generally are, cranks.

Not necessarily outside of their gardens, but enthusiasm marks the true lover of flowers and enthusiasm tends to extremes—hence the garden crank who, you will realize, has nothing to do with crankiness in the sense of grumpiness. In our gardens we want the things we personally like, not those that give delight to others though, as a commentary on cranks, we adore flattery and want every visitor to appreciate the effect of their thought and labor have created; for a gardener is a creator—no less.

If you should have a special admiration for althea or crape myrtle, those showy bloomers, it should make no difference to you that the neighbor who was "raised" in Georgia, refers to them disdainfully as "mulatto flowers" because the dusky residents of the southland seldom fail to adorn their dooryards with one or the other. If you will the devotion of your dearest friend to a certain plant, move you one if your individual wireless receiver happens not to be attuned to the silent waves which are that particular owner's message to man.

There appeared recently a refreshingly human article by one who admits that she greatly dislikes to allow unaccompanied visitors to roam her ample garden grounds. She wants to be right there with them to explain away the lacks and to draw attention to such beauties as might be passed over unobserved. Withal, she is aware that, when visiting the gardens of others, she derives far more enjoyment from a solitary ramble on which her admiration can flow forth spontaneously or be withheld unaffected by the demands of an eager companion. She insists that, when alone, she really discovers more beauty and charm when accompanied, yet she cannot feel safe to trust others to the test of personal intelligence and taste. She must be a real, lovable garden crank. Who has not indulged in the amusement of walking a guest rapidly past the less favorable plots and of lingering with crafty slowness where the best bits are to be seen?

Flowers White and Blue

For borders blue ageratum, mixed candytuft or sweet alyssum is very good. In the border, blue forget-me-not may also mingle. This is a flower of pure sentiment in addition being charming in appearance. Sow the seed in spring in a warm, sunny place. Canterbury bells are of several varieties. Sow the seed of the annual variety now. It is most attractive with its delicate bells of blue and white.

er varieties. Sow the seed of the annual variety now. It is most attractive with its delicate bells of blue and white.

Corn flower used to be much beloved and we often associated it with the red poppies of the wheat fields of France, but now that we know among its many names, it is called Kaiser Blumen and is the national flower of Germany, it has somewhat lost favor. At the same time, it is very pretty and a lovely shade of blue.

Larkspur and the tall, stately variety called delphinium, are of a celestial azure and most decorative. Sow the seed in the spring and later keep all withered stems cut out so that the season of bloom may be prolonged until autumn. Remember the daisy among the white flowers.

Golden coreopsis, sown in the open ground in May, will flower until frost. Plant the seeds of the flaming red and yellow nasturtiums now, and keep the flowers well picked if you wish to have a long continuance of almost inexhaustible bloom. Scarlet sage, or salvia, if sown somewhat late in May, will bloom for a long season and seems to draw humming birds from miles around.

Set some tiger lily bulbs. If there is a bit of root attached, a flourishing growth is assured. Their brilliance attracts both birds and butterflies. If you have an ugly back fence or wall that you wish to hide, sow sunflower seed and you may get a 10-foot growth surmounted by a big, glowing head.

Blooms in Varied Hues

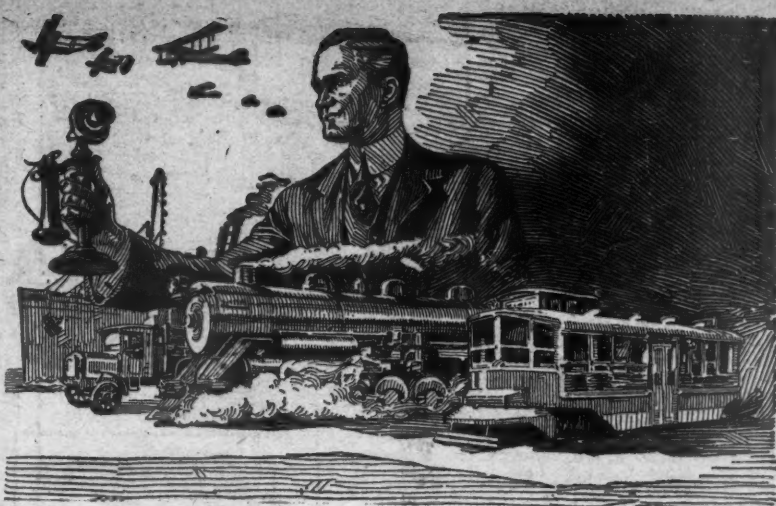
For masses of bloom try cosmos, white, yellow, pink and deep red. They are unusually ornamental. Foxgloves are fine against walls or along garden walks. They are found in pink, white and lavender. Columbines are very airy and interesting with dancing blossoms of pink, white, red or purple. Hollyhocks are so well-known as to need no description. They always look perfectly at home beside a country house and should be planted in rows against walls or fences, or set in large clumps. Seed sown now will not bloom until next year and hollyhock lovers sow some fresh seed each season for, though perennials, young plants produce the finest flowers. Pink, white, red and yellow, they have few rivals from a decorative point of view.

If you want snapdragon in July and August, sow the seed now. They come in pink, white, red and yellow and are among our finest ornamental flowers. No one can help taking a pride in them when they do well. Zinnias, formerly called "old maids," and relegated to the kitchen garden, are now developed in wonderful hues, both the clear colors and the pastel shades. They make extraordinarily handsome clumps at a distance and a brave showing in rows along garden paths.

At the word "poppy" we naturally see red, but they range through all shades of crimson and scarlet to rose and white. Sown at intervals of a few weeks one may enjoy them for a prolonged season of bloom.

IS YOUR HOME PRETTY?

Is your home a real home, set down among beautiful flowers, shrubs and trees, or is it just a house unadorned with any of nature's charms? We want letters from readers for use in these columns, telling how they have beautified their home grounds. For the best letter containing not more than 500 words, we will pay the writer \$5.00, for the second best letter \$3.00 and for the third best \$2.00. Special consideration will be given letters accompanied by good photographs of the house and grounds before and after the planting of ornamentals. All letters must be received by the AMERICAN FRUIT GROWER by May 31. Address, Home Beautifying Department.



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The progress of the past, as well as that of the future, is measured by criticism—for criticism exists only where there also exists faith in ability to improve.

We do not criticise an ox cart or condemn the tallow dip, for the simple reason that they are obsolete. During the reconstruction period through which our country is now passing, if the public does not criticise any public utility or other form of service, it is because there seems

to be but little hope for improvement.

The intricate mechanism of telephone service is, under the most favorable conditions, subject to criticism, for the reason that it is by far the most intimate of all personal services.

The accomplishment of the telephone in the past fixed the quality of service demanded today; a still greater accomplishment in quality and scope of service will set new standards for the future.



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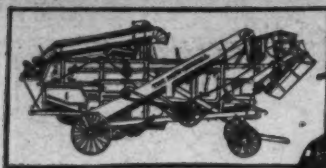
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by Edith Randolph

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Fruit stains may be removed from hands or clothing by the smoke of a burning sulphur match. Moisten the stained surface and expose it fully to the smoke, which will take effect at once.

L. M., New York.

When cutting goods by tissue-paper patterns, lay the pattern on the goods and press with a warm iron. No pins will be required to keep the pattern in place and cutting will be more accurate.

Mrs. E. B. A., Idaho.

The screw tops of oil cans, mason jars or any stubborn screw cover, can easily be turned by the aid of a piece of sandpaper, rough side next to the top to be unscrewed, and turn as usual.

Mrs. L. S. H., New York.

When painting any surface above the height of the arm, one is often annoyed by the paint running down the handle of the brush. Get a good sized hollow rubber ball, cut it in halves and force the handle of the paint brush into the hole that is always found in one end. The other half may also be

punctured with a sharp tool if the paint cups are desired. These cups will catch the paint and can be emptied at any time. Hands and paint are both saved by this method.

V. H., N. D.

To remove stains on white paint made by scratching matches, rub with a cut lemon. When dry, rub a little vaseline on the spot and the offense will not be repeated as it will not be possible to scratch a match on the spot for some time. If you wish to paint over this you will need to wipe the vaseline off first.

F. S. U., New York.

When making currant jelly, boil usual to extract the juice. Place bag and drain off the juice. Take pulp from the bag and boil again, repeating the same operation. The pulp may be boiled even a third time, furnishing two or three times as much jelly as if boiled but once. The juice from the second boiling is even better than the first.

G. G. F., Ill.

When a crocheted edge is to be worked on the material, make the stitch on the sewing machine rather long, use a coarse needle without threading it. Run the stitching close to the edge of the material. The holes made by the coarse, unthreaded needle are just the right size to catch the crocheting into. This not only saves much time and trouble, but makes the spacing of stitches accurate.

Mrs. L. S. H., New York.



The Afgco Cook Book

by Beatrice Holmes

Good to Serve With Meat

3 tablespoons butter ¼ teaspoon salt; few grains pepper
1 cup brown stock ½ cup currant jelly
1 teaspoon lemon juice

Melt butter and cook until brown. Add flour, stir until smooth and browned. Add stock, season and stir until glossy. Whip jelly with a fork and add to mixture. Add lemon juice and let simmer five minutes. Serve with venison, mutton or lamb.

Carrot Pickles

8 carrots 1 cup water
½ cup sugar ½ doz. cloves
1 cup vinegar 3 sticks cinnamon
¼ teaspoon nutmeg

Cut carrots in thick slices lengthwise. Boil in salted water until tender. Boil other ingredients together. Add carrots and when at the boiling point remove carrots, put in jars, pour vinegar over and seal tight.

Rice Risotto

1 cup rice 1 cup strained tomatoes
1 small onion sliced 1 lb. ham
1 green pepper ½ lb. ham
1 tablespoon butter 1 teaspoon salt
2 ½ cups water

Boil rice in water five minutes, drain. Fry onion and green pepper in butter eight minutes. Fry ham and cut in small pieces. Mix all ingredients together. Bake one hour in greased dish. Moderate oven.

Swiss Steak

Round steak 1 ½ inches thick, flour, salt, pepper, mushrooms. Pound as much flour into the steak as it will hold. Cut in size pieces to serve. Sear well in a frying pan. Cover with water. Cook in a slow oven two hours. Season and remove from pan. Add mushrooms to gravy and when mushrooms are cooked pour gravy over steak.

Sour Cream Cookies

1 cup sugar 1 teaspoon powder
1 cup thick sour cream 3 cups flour
2 eggs enough to roll

Beat sugar, cream and eggs together well. Add rest of ingredients. Mix well. Roll, cut and bake minutes in moderate oven.

Tokiere

1 pastry shell 4 onions cut in 6 cups mashed potatoes 2 tablespoons salt and pepper

Whip potatoes to a cream. Beat sugar, cream and eggs together well. Add rest of ingredients. Mix well. Roll, cut and bake minutes in moderate oven.

Candied Cranberries

2 cups cranberries 1 cup sugar
¼ cup water

Make a syrup of sugar and water. Prick each cranberry three or four times. Drop carefully into the syrup and cook slowly five minutes. Remove from fire and let stand overnight. Reheat and put aside for other night. Reheat and while hot move the berries and drop separately on well oiled paper and allow to dry. These may be used in place of cherries for decoration.

Broiled Rutabagas

1 large rutabaga 3 tablespoons butter
1 cup brown sugar Boiling water

Wash, pare and cut the rutabaga one-half-inch slices crosswise. In boiling salted water until tender. Drain and arrange in a dripping pan. Sprinkle thickly with sugar and each slice with butter. Place in oven and continue cooking until nicely browned. Serve around roast.

Succeeding with Citrus

Laura Hogg, Florida

"WELL," mused the noted ear specialist, taking off his glasses and gazing at the young man who impatiently awaited the verdict, "I must say I have done all medical science can do for you, and you cannot hear. You are deaf."

"Oh!" gasped the little wife of two years time, "not—not deaf for always? Oh! Harvey has all his life before him; he is but 28 years old, and he is so clever, and Oh! whatever will he do?"

The extreme nervous tension of the deaf man lessened a bit as his wife spoke, as though imploring the great physician to give back to her young husband that which a cruel fate had snatched away in one short day, when her husband had been rescued from a watery grave.

"My dear lady," began Dr. Calhoun, "I say he is a deaf man, I don't believe in deceiving my patients. He is a deaf man today, and likely for many days to come. But," and here his stern eyes softened kindly, "your husband's hearing may return in time. It is not entirely destroyed. Only nature must come to the rescue from now on." Here he placed his hands kindly on the young man's shoulders, "If you can be out doors, live an out-door life, in the country, in the sun, and fresh air, it will build up the system wonderfully, and be of great benefit to you, and in time, and I do not say how long or when, your hearing may return."

A month later saw Harvey Browning and his wife at Fort Pierce, Fla. The trip from New York on the splendid Clyde line steamship Seminole had refreshed both greatly. The officers and passengers had been so kind and obliging, and Constance Browning was feeling rested for the first in many, many weeks of anxiety, from nursing her husband whom she could not believe until now was really deaf and unable to follow the splendid profession he had attained by hard study. He was an expert accountant, stenographer, and translator of three languages, for which work his salary was often over three hundred a month.

Now, all was to be new, a new life to begin all over again. Harvey's parents, living at Fort Pierce, Fla., were large property owners, much of their land being orange-grove soil, in which many Northern tourists had invested and had become wealthy; some had groves that were worth \$3,000 an acre. Father and Mother Browning had urged Harvey to return to the old place and try growing citrus fruits. They offered him 50 acres if he would come.

Constance and Harvey talked it over all the way from New York to Jacksonville, from which city they would take the train for home, a nine-hour run. "But," said Harvey, "being the nervous wreck that I am, how can I do all that work, and to which I'm green as a gourd?"

"Well, dearie," was Constance's reply, "it will afford you the big out doors, the fine air, and the exercise which they say will restore your strength and take away all this extreme nervousness. You will sleep well, and wake up with the sun, feeling refreshed in body and mind, and—Oh, Harvey! you may hear even sooner than we dream; you must know it will be better to have your mind occupied than to sit day after day and muse over the trouble. And they write of the wonderful climate, and the beautiful views, around Fort Pierce."

"But you, Connie," gulped Harvey, "you know nothing of that life, or house-keeping, and cooking, and—and, mother sets so much store on folks being prime housekeepers, as she is. Nearly all our savings are gone now to the doctors. If father and mother give me the land, and the trees, we must do the rest as I cannot call on them for more. They are getting on in years, and there are five other children besides me. I was always so independent, so proud I never need ask for any help, and could even send them some money instead of asking it of the others so often do. I've enjoyed my work, too, and now I must give it all up, and try a line I know nothing about."

The tears were very near Constance's eyes, yet she answered bravely, "Never mind, dearie, it must all be for the best,

for some good, and you remember the oculist told you over a year ago, you may go blind if you did not give up stenography, and who knows but this accident was to save your sight?"

"Oh!" cried Harvey nervously, "don't excite me—my eyes—Oh! how they pain me at this minute. If, oh! if I'd go blind now Constance!" and he shivered as with a chill.

"But"—came the ever-ansoling voice, "you will not be blind now; your dear eyes will get the needed rest and all the time your body will be strengthening, and I am going to help you to it all, help you grow oranges, big luscious golden balls, and we will be partners." Harvey, catching the enthusiasm of his wife, smiled faintly, and patted her white hand that lay in his.

About two months later we see this couple standing hand in hand viewing with pride their first land possession, four acres of young citrus trees. The land was the best suited to the culture of this particular fruit, being yellow soil with clay subsoil. The trees had been started in a nursery by experts. First the seed of sour orange or rough lemon stock was planted which, after a year's growth, was budded with sweet orange or grapefruit. This grew two years, and was bought for this grove.

Then the land was cleared of timber. The stumps were taken out by hand or by a stump puller, or if large they were blown out with dynamite. The ground then was plowed, and planted in velvet beans. These were plowed under for a fertilizer and to add humus to the soil. Father Browning, and an expert man at this business, helped to prepare the land and from whom Harvey learned a great deal. The land then was left for about six months to sweeten, and when the trees arrived they were carefully set 20 feet apart, 110 to an acre. In their minds, this was a wonderful grove already, set out in such orderly rows, the bright sunlight playing hide and seek among them and the blue sky above, while the soft southern breezes made music in the palm trees that encircled the little white cottage called home. Constance was learning rapidly to cook well and keep the home cozy, and so bright a pupil was she that even Mother Browning smiled approvingly and praised her for her devotion to Harvey with his handicap of deafness.

"Who knows," said Constance, "but we may even do better with an orange grove, than in the big city where Harvey worked indoors all the time and missed much of the lovely sunshine? And think of it, I had never even smelled an orange blossom, not even for my wedding. How happily he smiles now. He forgets he is deaf I do believe, and last night he unpacked his typewriter and wrote several letters to friends and told of OUR orange grove."

"Yes," added Mother Browning, "all will be well if you think so, if you hold on to the thought of health and prosperity. Thought attracts it like a magnet. I've tried it and I know."

Time passed. Harvey grew surprisingly strong and unburned. Both were cheerful. They got a car and Constance was chief chauffeur. They drove into the city, some fifteen miles distant, did their shopping, visited awhile with the old folks, and then back to grove and the little white cot called Las Palmas, Spanish for "The Palms," while the winds whispered of health, and happiness.

After a time some insects appeared on the trees, but Harvey knew now it was a spray they needed, and soon with fish-oil soap spray they vanished. Later on a few trees showed signs of a fungus, and promptly a solution of bluestone was applied with desired results. At most there seemed surprisingly little to retard the progress of this grove. Constance said she prayed about it and Harvey studied it out scientifically, and the results were gratifying.

With the coming of spring there was rejoicing over the first white starry blossoms, exquisitely fragrant. And then the fifth spring. Ah, it was like a peep into fairyland. The whole grove

(Continued on page 50)



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P. S. HOBBS
Springfield, Mo.
WANTED
P. S. HOBBS
Office in
Chicago, Ill.
write, please

For Our Boys and Girls

Dear Fruit Grower Children:
Here we are now, almost into the middle of next summer! My, doesn't time fly around here—especially when we are well and having a good time as I hope all my boys and girls are. To the many little friends from whom I have received loving letters in the past several weeks I want to say that my reason for not writing you personally is that I have had the "flu" so very badly that I am still unable to do a very great amount of work, hence must let your dear little letters go unanswered.

With love,
EDITH LYLE RAGSDALE,
Care AMERICAN FRUIT GROWER, Chicago, Ill.

TANGLES

- No. 32—Riddle:
What holds all the snuff in the world?
No. 33—Riddle:
Why is it that a bareheaded boy cannot cut down a tree?
No. 34—Riddle:
Why is an old roof like a bad boy?
No. 35—Four Word Square:
An incursion.
One who assists.
Unemployed.
To think.
- Answers to Last Month's Tangles
No. 30—Charade:
Ring—Dove. (Ringdove.)
No. 31—Four Word Square:
D E C K
E D E N
C E D E
K N E W

Peggy Goes A-Sugaring

(Continued from last issue)

"Oh, Gam, I'm 'most starved! Is supper about ready?" And, after a great big hug, Grand-ma opened the oven door and showed the little girl the big, brown turkey, with oyster dressing, and then turned her around and showed her into the dinner room where, in the exact center of the rug, the round top oak table stood spread for supper.

"Get off your things," ordered Grand-ma. "Hurry, children," this to Mother and Daddy Biggs, "supper's all ready to dish and Peggy's as hungry as a little bear."

So they all hustled out of their wraps and, after a hasty wash, trooped into the dining room and began the destruction of Grand-ma's good things.

The next morning Peggy made the rounds of the sugar grove with Grand-pa, watched him while he bored holes in the big trunks of the sugar trees, an operation he called "tapping," and inserted metal "spouts," through which the sugar sap came running on its way into the buckets hooked onto the end of the spouts.

"Now," said Grand-pa, as he hung the last bucket in place, "we'll go home to dinner. Then, this afternoon, we'll come back with Barney, the bay horse you always ride when here, and a sled and gather up the sugar water. Then, when we get enough, we'll begin boiling."

For days the little Illinois girl ran about, so bundled up that the cold could not come near her, "helping" Grand-pa. There were wonderful

days when she watched the sap flow into the storage tank on its way to the evaporator where it bubbled and boiled and sent out the most delightful odors. Days when she cooled little pans of syrup on the ice and ate more than was really good for her. Days when, nearing the end of the season, Grand-ma taught her how to make "maple cream," a most delicious confection, of which Peggy never could get enough, and which was made by boiling the syrup to a temperature of 230 degrees and then pouring into shallow pans which were set on ice and cooled as rapidly as possible. When Grand-ma, by testing, found the syrup right, that was about 90 degrees, she clamped the pans to a bench, where they remained while she stirred rapidly until the syrup became creamy in color and of the consistency of ice-cream in density.

And then, when Peggy and Mother and Daddy were returning home, there were glasses of the maple-ice-cream and cakes of maple sugar, enough, or so it seemed, to last one little girl a year. But, no doubt, Peggy soon ate it all up because, as most little boys and girls, she possesses a very sweet sweet-tooth.

"UNDER THE OLD APPLE TREE" OF SOUTH AFRICA

The fruit growers of South Africa are having their difficulties with labor and the apples, pears, and grapes which have made Cape Town famous may be damaged if enough labor is not found to harvest the crops. In some parts of Union South Africa attempts have been made to introduce systems of forced labor, but as a rule these attempts have not been successful. In Natal 150,000 Indians from the East Indies were brought under a contract to serve on African farms, especially the sugar plantations. As a rule the natives of Africa are not concerned about the conditions of farms because the native farmer cares only to raise enough for his immediate use. The future is blissfully unannoying to him.

Farming on a large scale is the rule in Africa, many of the farms in Rhodesia being from three to six thousand acres in extent. American machinery is used to a large extent for all forms of harvesting. Spraying and trimming apparatus for the fruit trees can find a ready placement in these Cape Town orchards and if the labor shortage is not relieved within the next season, according to representatives of the Interchurch World Movement, such machinery will be a stern necessity.

DANIELS LIKES APPLES

Josephus Daniels has one passion. He cackles fermented liquors, he has never smoked a cigarette in his life, he doesn't even play golf. His only hobby, he announced the other day with one of his really attractive smiles, is hard work and lots of it. But there is one thing beside work that can bring an eager smile to his lips and a hungry gleam to his eyes, and that one thing is an apple. Mr. Daniels believes in apples. He not only likes to eat them, he likes to feel while consuming a large and luscious one that he is keeping the doctor away for another day, it being his firm conviction that an apple a day will do that.



Show Men The way to whiter teeth

All statements approved by high dental authorities

Women should test this new method of teeth cleaning. They usually decide the family tooth paste. Tooth protection depends largely on them.

There are new facts to consider. And every woman, for her sake and her family's sake, should prove them.

That film-coat

Most tooth troubles are now traced to film. To that viscous film which you feel with your tongue. Millions of teeth are dimmed and ruined by it. Film clings to teeth, enters crevices and stays. The ordinary tooth paste does not dissolve it, so the tooth brush leaves much of it.

It is the film-coat that discolours, not the teeth. Film is the basis of tartar. It holds food substance which

ferments and forms acid. It holds the acid in contact with the teeth to cause decay.

Millions of germs breed in it. They, with tartar, are the chief cause of pyorrhea. So, despite the tooth brush, all these troubles have been constantly increasing.

Now we combat it

Dental science has for years sought a way to fight that film. Not on the surface only, but between the teeth.

That way has now been found. Able authorities have amply proved it. The method is now embodied in a dentifrice called Pepsodent. To millions it has brought a new era in teeth cleaning, and leading dentists everywhere are urging its daily use.

Ask for a ten-day tube

Everyone is welcome to a test of Pepsodent. Watch the results, read the reasons for them, then judge it for yourself.

Pepsodent is based on pepsin, the digestant of albumin. The film is albuminous matter. The object of Pepsodent is to dissolve it, then to day by day combat it.

A new discovery makes this method possible. Pepsin must be activated, and the usual agent is an acid harmful to the teeth. But science has found a harmless activating method,

and active pepsin can be used to fight this film.

Pepsodent combines two other modern requisites. And these three great factors do what nothing else has done.

Send the coupon for a 10-Day Tube. Note how clean the teeth feel after using. Mark the absence of the viscous film. See how the teeth whiten as the film-coat disappears.

You will know then what is best for you and yours. Cut out the coupon now. This is too important to forget.

Pepsodent
REG. U.S. PAT. OFF.

The New-Day Dentifrice

A scientific film combatant combined with two other modern requisites. Now advised by leading dentists everywhere and supplied by all druggists in large tubes.

10-Day Tube Free

THE PEPSODENT COMPANY,
Dept 506, 1104 S. Wabash Ave.,
Chicago, Ill.

Mail 10-Day Tube of Pepsodent to _____

Only one tube to a family

FOOD PRESERVING RECIPES

Most Complete Book on Preserving and Canning Ever Published. Hundreds of Recipes

Every food product subject to preserving and canning covered clearly and in detail. Best methods shown, including the cold-pack method, now commonly accepted as the best. Compiled at great expense. \$2.00 in CENTS SILVER ON STAMPS TO COVER MAILING EXPENSE. Book sent by return mail.

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compare Camels with any ciga-
rette in the world at any price!

Succeeding With Citrus

(Continued from page 47)

was abloom with the sweet waxen blossoms. The mocking birds caroled songs of praise, and in the hearts of the citrus growers, was a great peace and thankfulness, that not only had they progressed wonderfully well bringing the grove into bearing, but had overcome the handicap of deafness. Harvey now was so well, strong, and clear eyed, and had a courageous smile for all whom he met.

All through the summer months these two eagerly watched the tiny green fruit grow larger and larger, and as it neared Thanksgiving their first marketable crop was almost ripe, the trees hung heavy with the luscious golden fruit. One day Harvey, busy putting the many crates together, was interrupted by two strangers who, not knowing he was deaf, had been speaking to him some minutes. Constance seeing them ran out and conveyed to her husband the gentlemen were tourists looking for a bearing citrus grove to purchase, and were quite in favor of his offering him a wonderful price. But they were told no money could buy that grove, and then after they heard of the story from beginning to end both slapped Harvey kindly, saying "Good for you, boy—we understand. We would feel the same way, and we don't blame you."

Then came the gathering in of the crop.

American Fruit Grower

With the help of two boys they clipped the fruit, carefully, into huge baskets. These were then assorted, the larger perfect ones, that would bring the best price, and the smaller ones that sold for less money. All were carefully wrapped in tissue paper, placed in crates, nailed up, and shipped to Northern markets. To Harvey and Constance the checks they received for this fruit seemed the biggest sum they had ever possessed. After the working and waiting of five years, and about the time the crate was shipped and several had been sent to friends in New York as gifts for Christmas, what should happen? Harvey, looking up and down, and sort of bewildered, said in excited joy, "Oh Constance, I—I can hear, I hear a bird! And lo! the robin redbreasts were coming to spend their winter in Florida, as all good tourists do, and not ten feet from Harvey they were chirping and Harvey heard. "It is not so plain yet," said he with beaming face, "but it is coming. I feel it," and the joy of it all the extreme gratefulness, such true happiness could only sing, "Praise God from whom all blessings flow."

According to the "Florida Grower" L. A. Henderson, Hillsboro county, sent out some strawberry plants on September 25, gathered the first ripe berries on November 25, just two months after setting, and sold the berries for a dollar a box. Some record, we claim. Can anybody beat it?

STATEMENT OF OWNERSHIP

Statement of the ownership, management, circulation, etc., required by the Act of Congress of August 24, 1912, of American Fruit Grower, published monthly, at Chicago for April 1, 1920.

State of Illinois, County of Cook, ss. Before me, a Notary Public in and for the State and county aforesaid, personally appeared Samuel Adams, who, having been duly sworn according to law, deposes and says that he is the Editor of the American Fruit Grower and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, Robert B. Campbell, Chicago, Ill.; Editor, Samuel Adams, Greenwood, Va.; Managing Editor, E. H. Favor, Chicago, Ill.; Business Manager, F. W. Oriemann, Chicago, Ill.

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock.) Samuel Adams, Greenwood, Va.; E. B. Mankin, Chicago, Ill.; Mary Lee Adams, Greenwood, Va.; Robert B. Campbell, Chicago, Ill.; R. I. Barnett, Atlanta, Ga.; J. E. Ford, Chicago, Ill.

3. That the known bondholders, mortga-

gees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities (If there are none, so state.) None.

4. That the two paragraphs next giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation to whom such trust is acting, is given; and that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is _____ (This information is required from daily publications only.)

Sworn to and subscribed before me this 26th day of March, 1920. Anna C. Wright, [Seal.] Notary Public.

(My commission expires April 11, 1921.)

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Rate, 15 Cents Per Word

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HORTICULTURAL GRADUATE WANTS position in commercial work. Experienced in Fruit Growing, general farming and experimental work. Address C. G. R., American Fruit Grower, Chicago.

AGENTS: MASON SOLD 18 SPRAYERS AND Autowashers one Saturday; Profits \$2.50 each; Square Deal; Particulars Free. Rusler Company, Johnstown, Ohio.

RAILWAY MAIL CLERKS, CITY MAIL CAR- riers, wanted by government. Commence \$160 month. Men, 18-45. List positions free. Write immediately. Franklin Institute, Dept. 8141, Rochester, N. Y.

WANTED—RELIABLE MAN TO ACT AS our district superintendent to book orders and engage sub-agents. Exclusive territory. Pay weekly. Act at once before your territory is assigned. C. H. Weeks Nursery Co., Newark, New York State.

SOME OF OUR SALESMEN EARN FROM \$3.00 to \$6,000 a year selling Visual Instruction equipment to schools. Exclusive territory contracts and FREE sample outfit to high-class men with references. Underwood & Underwood, Inc., 422 Fifth Ave., N. Y.

RAILWAY TRAFFIC INSPECTORS EARN from \$110 to \$200 per month and expenses. Travel if desired. Unlimited advancement. No age limit. We train you. Positions furnished under guarantee. Write for Booklet C. M. 84. Standard Business Training Institute, Buffalo, N. Y.

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REAL ESTATE FOR SALE

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OWNER OF ONE OF WILLAMETTE VAL- ley, Oregon, finest 160-acre apple orchards for sale cheap. Reasonable terms. Suitable for subdivision. A. C. Bohmstedt, 401 Masonic Temple, Salem, Oregon.

205 ACRES—ORCHARD AND STOCK FARM. 4,000 bearing apple trees, 90 acres in orchard, 45 in other crops, balance in timber. Good buildings and water. Long terms. Low interest. W. H. Funk, Dixon, Mo.

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MICHIGAN FRUIT FARM LIST FREE. 40 acres, 1,100 fruit trees, buildings, \$4,000; 425 acres, 5,000 apples trees, price including personal property, \$50 acre; 240 acres unimproved land, \$6.50 acre. Zander Bros., "Fruit Farm Specialists," Milwaukee, Wis.

NEW YORK FRUIT, GENERAL AND DAIRY farms. Near Buffalo. Wonderful bargains. Completely equipped. Great opportunities. Western farmers reaping great harvest here. Save several thousand dollars purchasing now. Catalogue free. Send immediately. Buffalo Farm Exchange, Buffalo, New York.

360-ACRE APPLE AND STOCK RANCH; IN the famous White Salmon Valley, Washington. 72 acres bearing orchard under standard western methods and 200 acres alfalfa, clover, pasture and grain. Modern house and the very best of improvements and equipment; good farm livestock. For description, price and terms, address C. A. Chapman, 511 Spalding Bldg., Portland, Oregon.

MISCELLANEOUS

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[MISCELLANEOUS]

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Goodyear Monterey Spray Hose is of wrapped construction with a cover especially resistive to leaks and bursts.

Built to protect our good name, Goodyear Monterey Spray Hose is standard equipment in the spraying outfits of thousands of progressive fruit growers.

You can obtain Goodyear Monterey Spray Hose in the size and ply best adapted to your particular needs at the local Goodyear Mechanical Goods Service Station. For further information write to The Goodyear Tire & Rubber Company, Akron, Ohio.

GOODYEAR

SPRAY HOSE



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A Western Farm Paper says—

"Sightly farm buildings create home pride in the owner and his family; keep him up-to-date, and strengthen his credit."

Barrett Everlastic Roofings fully meet the requirements of the farmer who realizes that the appearance of his place goes a long way towards fixing his standing in the community.

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A high-grade roll roofing, surfaced with genuine crushed slate, in two natural shades, red or green. Needs no painting. Handsome enough for a home, economical enough for a barn or garage. Combines real protection against fire with beauty. Nails and cement with each roll.



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Made of high-grade thoroughly waterproofed felt and surfaced with crushed slate in beautiful natural slate colors, either red or green. Laid in strips of four shingles in one at a far less cost in labor and time than for wooden shingles. Give you a roof of artistic beauty worthy of the finest buildings, and one that resists fire and weather. Need no painting.

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